

KEITH'S MAGAZINE

ON HOME BUILDING

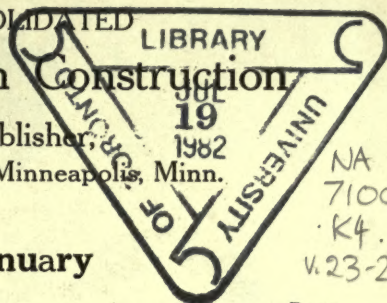
WITH WHICH IS CONSOLIDATED

The Journal of Modern Construction

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Contents for January

	PAGE
ROSE FARM, SUMMER HOME OF MR. E. J. LONGYEAR AT LAKE MINNETONKA	6
THE ARTIFICIAL LILY POND	12
TYPICAL AMERICAN HOMES	15
COMBINATION ARCHITECTURE	18
CONCRETE BRICK	20
HOW TO PROTECT STRUCTURAL METALS	23
PROBLEMS IN CONCRETE	25
A SPOKANE HOME	29
DESIGNS FOR THE HOME-BUILDER	33

DEPARTMENTS

DECORATION AND FURNISHING	46
ANSWERS TO QUESTIONS ON INTERIOR DECORATION	52
HOUSEHOLD ECONOMICS	56
TABLE CHAT	60
CEMENT	64
PAINTING AND FINISHING	68
QUESTIONS ANSWERED ON CONSTRUCTION	72
HEATING AND PLUMBING	74
SPLINTERS AND SHAVINGS	78
BOOK NOTICES	80

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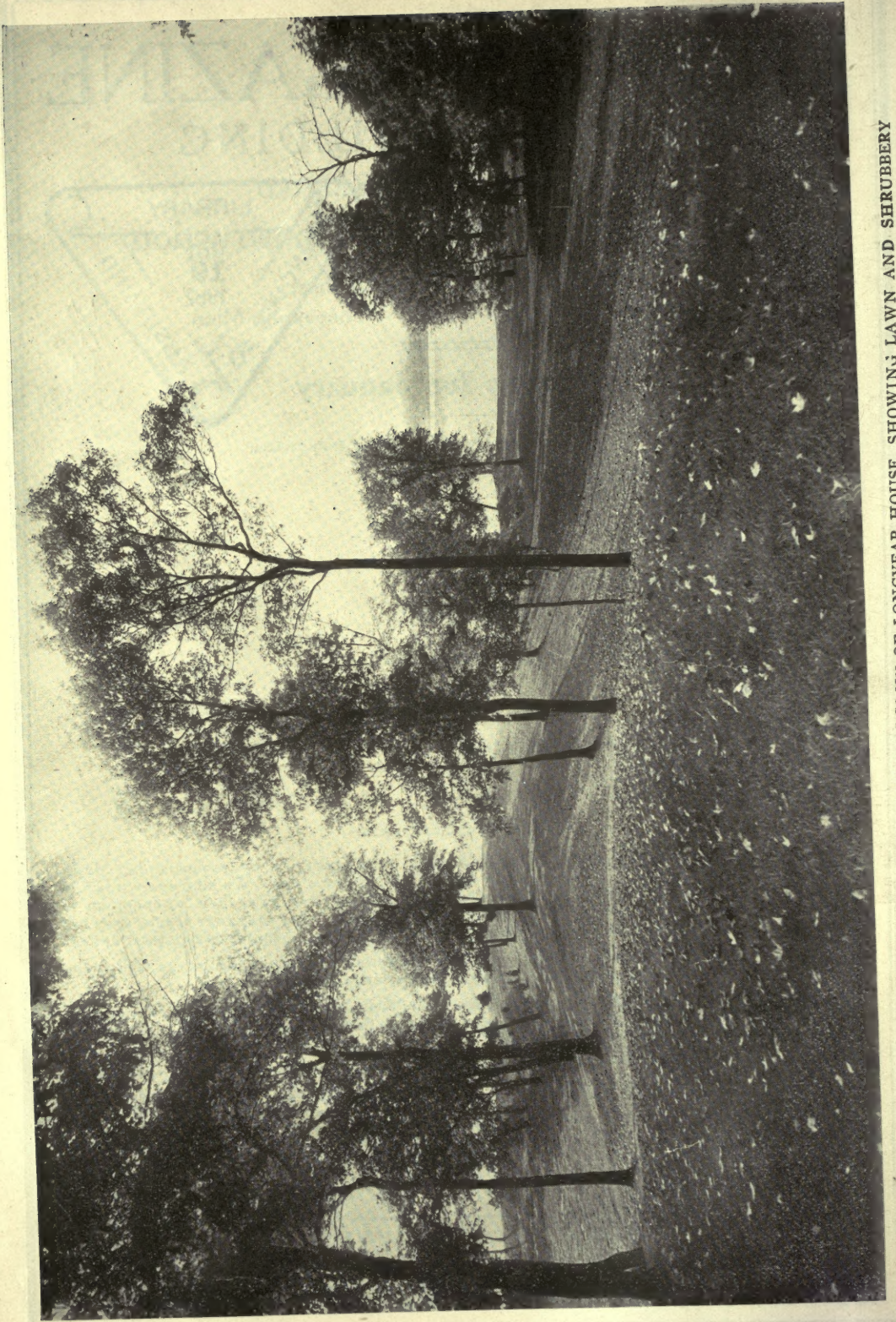
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LAKE VIEW FROM VERANDA AND UPPER BALCONY OF LONGYEAR HOUSE, SHOWING LAWN AND SHRUBBERY

KEITH'S MAGAZINE

Vol. XXIII

JANUARY, 1910

No. 1

ROSE FARM

The Summer Home of Mr. E. J. Longyear at Lake Minnetonka



CARRIAGE ENTRANCE AND POSTERN DOOR

Courtesy of The Keith Co.

Lake Minnetonka is justly famed for the beauty of the summer homes lining its picturesque shores, and Mr. Longyear's country place easily takes first rank among them. Rose Farm takes its name from the truly wonderful rose garden which forms part of the grounds wherein flourish twenty or more varieties of roses, giving a constant succession of bloom not only through the summer but yielding royal roses in late October.

The place is a happy compromise between the opposing claims of the idealist

and the realist. Between the purely artistic and the practical, there is supposed to be more or less antagonism; the ethical side—the side of pure beauty, is often incompatible with practical needs, and we are liable to pay dearly in increased cost and decreased comfort and convenience, for too much subordination of the practical to the romantic or idealistic side.

It is not, however, impossible to recognize both of these claims and to introduce into constructive and practical art



PART OF LAKE FRONT, SHOWING VERANDA AND CIRCULAR BALCONY ABOVE

that indefinable and inexpressible quality which we call the ideal. In truth, constructive skill and knowledge is one part of the making of an artist, and the true architect is both artist and an adept in constructive art. This subtle and indefinable quality in the architect is what gives an architecture of individuality and picturesqueness, a dwelling suited to the aspects of the nature where it is placed, instead of the tiresome "brick boxes with slate lids" that so often confront us.

A lavish nature supplied abundant stimulus to the imagination, and furnished a romantic environment for the architecture of Rose Farm.

The one hundred acres of rolling woodland furnish grounds of great breadth and expanse, while giving a delightful seclusion to the place which is part of its charm.

The house itself is approached by a

broad and beautiful drive of perhaps half a mile in extent, beneath grand maples and elms of "the forest primeval"—the drive terminating in a broad gravelled space before the carriage entrance. Not until the house is fairly reached, does one realize the extent of the dwelling, which from one point of view modestly retires behind a slight rise of ground. As a matter of fact, the house contains fourteen sleeping rooms, two having been recently added, with several attached bath rooms in addition to the great living rooms, halls and corridors whose arrangement is seen by reference to the floor plans herewith shown.

In designing the house some of the individual conditions for the architect to meet included the needs and requirements of a large family, plus the profuse hospitality of the owners.

Mingled with these requirements were

haunting memories of the old English farmhouses, seen in foreign travel. Both the practical needs and the artistic feeling were met in the low, rambling English farmhouse type of design selected for the dwelling which fits in so admirably with the environment of which the surrounding woodland is an essential feature.

The house itself is of shingle construction, brown-stained, with relief of cream white trim, above rugged and picturesque cobble-stone work in foundation and portico piers; the cobblestones being

neys and cobblestone walls, its many and quaintly grouped windows; while the "*Posterne doore*," with its alluring suggestion of some old English Manor house in feudal times, brings to mind Lowell's felicitous lines—

"I love to enter pleasure by a *postern*,
Not the broad popular gate that gulps
the crowd."

Another illustration gives part of the water front of the house, which is placed perhaps three hundred feet back from the lake. A magnificent porch stretches across this front and around one end of



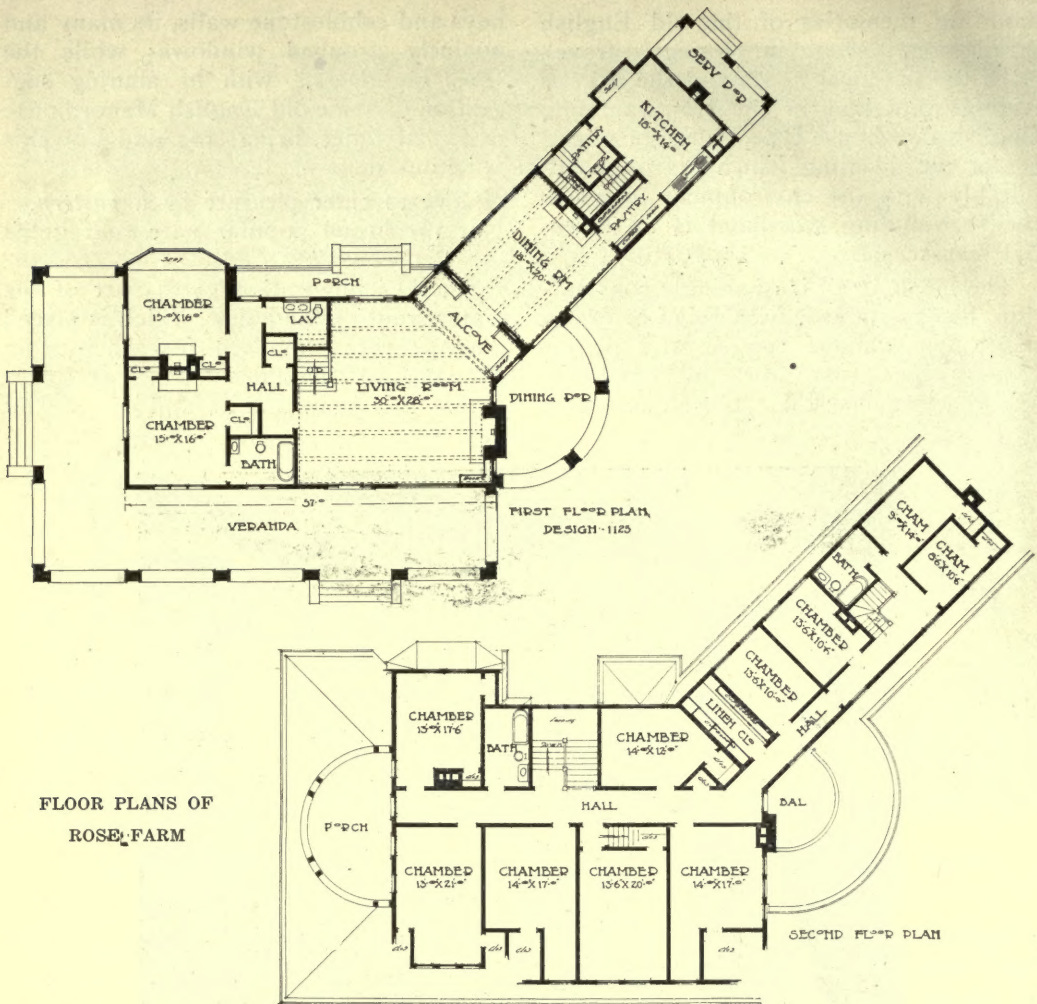
CHIMNEY BREAST OF LAKE BOULDERS IN LIVING HALL

used for the chimney construction also. The soft browns and greys blend with the browns and greens of the woodland as though they had grown up together, furnishing the old-time atmosphere which artists strive for.

"Some people love four careful walls
And some love out-of-doors."

It may be readily determined which class the owners of Rose Farm belong to, as the low, rambling structure of the house itself comes into view on the carriage side, with its delightful irregularity of roof and gable, its rugged chim-

neys and cobblestone walls, its many and quaintly grouped windows; while the "*Posterne doore*," with its alluring suggestion of some old English Manor house in feudal times, brings to mind Lowell's felicitous lines—
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FLOOR PLANS OF
ROSE FARM

would give an artificial air to the place, is its most penetrating charm.

Much money and skill have gone to the beautifying of the grounds; but while their beauty has not just "happened," but is the result of intelligent study of each feature and of the place as a whole, there is no formal scheme, or artificial restraint. In almost every site nature herself offers some suggestions or hints to the true artist as a basis from which to work. Rose Farm proffered a wealth of natural beauty and resource, which has been carefully and cleverly incorporated in the general plan. The native shrubs of the woods have been utilized for decorative purposes. The scarlet clusters of the highbush cranberry flash fitfully along the drive; brilliant su-

machs flame in clumps, the delicate pink of the bush honeysuckle, the fragrance of the wild grape, the graceful bitter-sweet vines, tall brakes and ferns—all have been woven into this fascinating scheme of rural decoration which offers so many delightful and unconventional possibilities. We enter the great living hall, 28x30, with its broad staircase at one side and massive chimney breast of the lake boulders reaching up to the ceiling at the other, its heavily beamed ceiling and oak furnishings relieved by palms and ferns—and pass through onto the immense loggia or screened veranda of the lake front—a place to linger long and be loth to leave. The whole loggia is tasteful and luxuriously fitted up with easy chairs, couches and swinging seats

in green wicker with crex porch rugs in bright colors. Here and in the balcony above the family life is largely lived—outdoor life being still further provided for by the circular dining porch which opens from the formal dining room inside. The balcony above the veranda is a sleeping porch occupied by the four boys of the family.

Perhaps one of the most attractive of the interior features is the long upper corridor, with the large window opening on the landing. This corridor has the walls done in a reproduction of a colonial landscape paper in blocks, all in soft greys, giving a very light and cheerful aspect. Greys and browns, in fact, may be said to form the color scheme of the interior, the soft grey of the plaster framed in by the brown woodwork and relieved by the green and grace of ferns and brilliant bloom.

The sleeping rooms are treated in light and delicate tones, the two on the first floor being devoted to the mother and small daughter. One of the guest chambers on the second floor called the rose

room is hung with a cretonne paper in a rose design with hangings and bed furnishings to match, white furniture with rose panels, and white woodwork. Another is carried out similarly in the nasturtium motif.

While this delightful home is chiefly used in summer, it is kept open the year round, for an hour's auto ride brings them easily out from the city for the beauty of the October days when the maples and sumachs flame and all lesser garden glories pale before them. Then house parties and "week-ends" tax even this generous roof-tree, while winter snows bring the still greater pleasures of ice-boating without and blazing log fires within. The view of the house in winter was taken on one of these merry occasions, and gives a better idea of its extent, by reason of the absence of the dense summer foliage.

Summer or winter, Rose Farm is perennial in its charm.

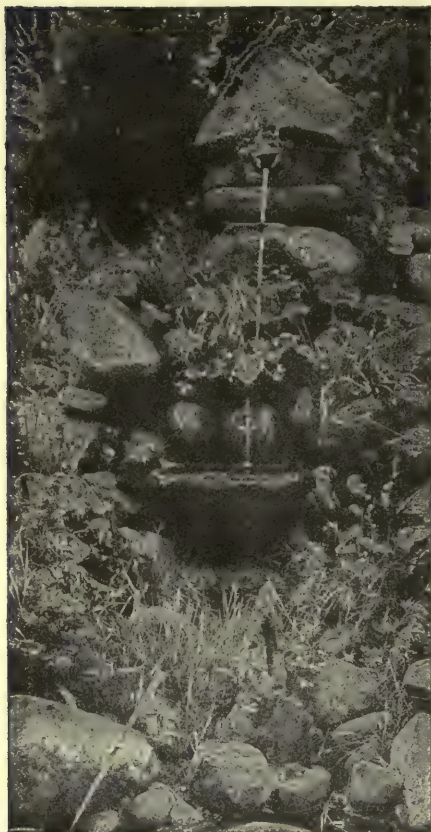
"A house of dreams untold—
It looks out over the whispering treetops
And faces the setting sun."



LAKE FRONT OF ROSE FARM IN WINTER

The Artificial Lily Pond

By Ida D. Bennett



Courtesy John S. Bradstreet & Co.

FOUNTAIN OF LILY POND

AS THE greatest charm of the quiet landscape lies in its still bodies of water reflecting the sky and waving trees, or in its rippling brooks or gently flowing river, so the garden which adds to its wealth a pool of clear and dimpling water, starred over with fragrant lilies, white and crimson and rose, casting their shadows, with that of the leaves and stems, in the depth below, has a charm unknown to the garden which lacks this attraction. And this appeals, not alone to one's aesthetic sense but to the practical instincts as well for the water lily garden, once established, needs little further care; it requires neither to be watered, cultivated or weeded and is, for this reason,

the garden par excellence for the busy man or woman or the invalid whose principal part in the garden is to enjoy.

No matter how well cared for the remainder of the garden may be, it is rare to enter its precincts without seeing something to be done—a straggling or fallen plant to tie up, a too luxuriant vine to prune back, a bed which needs the soil loosened or weeds removed and ever, always, the need of water. With the lily pond no such need exists, or at least it is not perpetual and persistent as in the earth garden; once established and started in the spring there will be little need of further attention; of course, there must be a certain amount of water added from time to time to supply the amount lost by evaporation and taken up by the plants—the latter being considerable, but the amount lost by evaporation is much less than would be supposed, even under the hottest sun, as the pads of the lilies cover the water quite closely and prevent evaporation in any considerable degree; and where there is a water system on the place the supplying of water is settled permanently as far as the labor is concerned as it is only necessary to turn on the water and let it flow into the pool or to throw it in a fine spray over the lilies, cleansing and brightening them at the same time that the pool is being filled and overflowed.

Occasionally it will be necessary to remove faded leaves, or even to thin out a too luxuriant a growth and that is all, except to enjoy and enjoy again this most charming of gardens.

There is a general impression abroad that the construction of a lily pond is attended with much trouble and expense and it certainly is something of a trouble in a community where this form of gardening is unknown, but the trouble is largely imaginary, as any mason who is capable of constructing a good, water-tight cistern can construct a successful lily garden and there are many men who are not masons who are doubtless quite competent to undertake a work of this kind, given the necessary detail, and it is for the benefit of those who wish prac-



Courtesy John S. Bradstreet & Co.

A LILY POND IN MINNEAPOLIS

tical information that will enable them to undertake the construction that this article is written.

There are several materials suitable for the construction of an artificial pond, any one of which may be used, the convenience with which they may be acquired being the principal element to be considered. Stone, brick and concrete all being satisfactory if well laid, but it will probably be found more economical, throughout the greater part of the country, to use concrete or cement blocks as this may be laid so solid as to insure perfect tightness, which is the first essential of success. If cement blocks are used they will have to be made for the purpose from a special mould, as the pond will probably be round and so square blocks will not be available. The round pond is more practical as it does away with corners, which are likely to cause trouble and should be avoided. Moreover the round pond is far more attractive.

In constructing the pond the earth should be removed to the depth of two and a half feet and the diameter of the excavation must allow for the thickness of the walls—eight inches being thick enough for brick or concrete walls. In laying concrete it will be necessary to use a form for the inside of the circle, the earth, if hard and smoothly excavated, doing for the outer form of the circle. A very good concrete may be made by

mixing dry one part of Portland cement and two and one-half parts of clean, coarse sand until the mixture shows a uniform color and then adding five parts of clean broken stone or coarse gravel and spraying on sufficient water to bring the mass to the proper working condition. The broken stone or gravel should be thoroughly wetted before adding. Concrete should be used within one hour after making and for that reason should only be made in such quantities as are required for immediate use. The concrete after being placed in position should be lightly rammed or tamped until the moisture comes to the surface. It will be well in laying the sides of the pond to extend the concrete over a few inches onto the pond bottom and in laying the floor of the pond to lap onto this as the joint sometimes gives trouble by the walls settling more than the floor. The floor of the pond is laid last and is constructed the same as a cellar bottom or sidewalk, using the concrete about six inches thick and finishing off floor and side walls with a cement of one part cement to two parts sand thoroughly mixed before water is added and the whole may be washed over with a coat of clear cement if desired. The walls of the pond should extend above the level of the ground about four inches and be neatly finished off. There should be an overflow provided for at one side by cutting

down the curb into a shallow hollow and constructing a drain from this point into the adjoining garden or elsewhere. Water-loving plants may be placed at the foot of this drain and so be supplied with abundance of water if the pool is flushed daily. It will be necessary to furnish a drain to empty the pool in the fall and this may be cheaply and easily provided by sinking a four-inch tile, or two, if necessary, down into the underlying gravel, its mouth level with the floor of the pool. If, however, there should be no gravel beneath the pool a large hole three foot or more in depth should be dug and filled with gravel into which the tile may be sunk. The juncture of the tile and floor must be perfect else there will be a leak of water. The mouth of the tile may be closed with a large wooden plug which has had a small hole, not more than three-quarters of an inch, bored in it and a round rod, long enough to reach above the earth thrust into this completes the closing. The wood of the plug and rod swelling makes a watertight joint and in the fall the withdrawal of the rod allows the water to escape. This is a very primitive plug but is far more effectual than a plumber's trap and has the advantage of resisting the curiosity of the casual small boy.

Over this outlet, before placing the earth in the pond, a twelve-inch tile which has been reduced in length to about fifteen or eighteen inches, should be placed. This is to prevent the earth settling about the plug and working into the drain when the plug is withdrawn. It also is convenient place for letting in the water as it will not disturb the soil and

foul the water as would be the case were the stream turned directly upon it.

The cement must be kept wet until set and the sooner the earth and water can be gotten into the pool after the mason work is completed the better.

The best earth for the growing of water lilies is marsh earth or muck mixed with well decayed cow manure. This should be filled in to the depth of one foot and leveled off smooth. Over this about an inch of clear white sand—lake sand is best—should be spread as evenly as possible. This may be done after the lilies are planted and so the surface left white and free from anything which would foul the water. The lilies should be planted so that their crowns are just above the level of the soil. In planting the lilies in the bed it will be necessary to place broad boards to stand on as the soil in the beds is much too soft. Not more than half a dozen plants should be placed in a pool twelve feet wide, as they spread rapidly and the large floating leaves require an abundance of room. By the second or third year it will be necessary to remove a part of these, probably.

Where there is a water supply the matter of conveying water to the pool is simple, as it may be either piped there, the entrance of the pipe being through the masonry and into the tile over the drainage hole or a surface pipe may be connected by hose with the pool or a stand pipe in the center may be furnished with a fountain spray and greatly add to the attractiveness of the pool, but in this case great pains must be taken to make all secure about the plumbing or leakage will result.



Courtesy John S. Bradstreet & Co.

ANOTHER VIEW OF LILY POND

Typical American Homes

By H. Edward Walker



A COMBINATION OF WHITE CEMENT AND RED BRICK

THREE types of American homes are shown, in which cement is used as an exterior finish, in whole or in part. As builders become more familiar with the artistic possibilities of this material and its proper application a marked improvement is noted. At the beginning of the cement era, as it may be termed, workmen were timid about producing exterior surface effects. Men who had been considered finished workmen as plasterers, found they had no knowledge of the proper method of producing certain kinds of exterior work. If a dashed surface was required, the very knack of throwing it on evenly was hard to acquire. Only a few

had the necessary knowledge and dexterity and these kept it to themselves as long as possible. Early contracts taken locally were finished entirely by the employers, their employes carried the work to a certain point and were allowed to go no further. But man is imitative. A case comes to mind of a close figure given by a general contractor on a suburban building. The principal cement finishing firms wanted a price which, as the contract was let, meant a loss to the contractor. A progressive workman was found, in the employ of another firm, who spent his spare time dashing cement upon the foundation of his house, for practice. He soon became expert at the

work and his firm was able to make a price which brought the work through without loss. Although no profit was made the job was the "open sesame" to more important work.

The work is no longer a secret in the larger communities and prices have adjusted themselves somewhat. Competition as yet, has had no disastrous results, for more of the better class of dwellings are being cement coated every day. With the early attempts came the demand for color in cement. This gave and, in some instances, is still giving a great amount of trouble. Various methods are now in vogue which are fairly successful and many pleasing effects have been obtained. The first illustration shows a cement surface of a very plain character, used as a body covering with trimmings of brick at angles and about the windows. This arrangement of materials of different texture and color is almost always pleasing if the design is in capable hands. This house has

a splendid location overlooking the city and this probably accounts for the round tower effect which mars its whole appearance. A covered outlook obtained in almost any other way is preferable to a tower, except upon buildings of the castle type. With this corrected, the design would be quiet and dignified; as it is the tower of metal looks cheap and out of harmony. The second house is altogether satisfying. It is in the half-timber style, one sees it at a glance, there is nothing about it which suggests any other style, it is simply but logically carried out. The use of red brick or pavers in wide recessed white mortar joints about the porch and lower story, give a texture to the wall and a suggestion of age, all the more appropriate because of the style employed.

The front gable has a peculiar charm, somewhat elusive for exact definition, but it seems to be in the treatment of the casement window, with its square panes and strong muntins. The corbel-



A SATISFACTORY HALF TIMBER HOUSE



AN ALL CEMENT EXTERIOR

FREMONT D. ORFF, *Architect*
H. EDW. WALKER, *Associate*

ing below, supporting the beam on which the timbers rest, is very effective. It creates a letter A outline of the gable, giving expression. A childhood thought of houses like faces, possessing expression, comes back and seems as real now as then.

The cement is rough cast which goes well with the general tone of the whole composition. The shingles of the main roof are of stained red cedar but on the flat low pitched roof of the porch asbestos shingles are used, it being a more difficult situation, and will last a lifetime. A good material once in place is often the cheapest thing in the years to follow. The plain little gable over the porch entrance is unobtrusive but the wide opening gives promise of hospitality. The remaining house is of interest chiefly because it is simple in outline. The shadows are well cast, a thought which should not be lost sight of in design. Although not a stable quantity, a proper projection gives a shadow, which in its ever vary-

ing outlines should make a design interesting.

The entrance hood is pleasing with its gable roof supported on heavy wooden brackets on either side. The grouping of the front windows in triplicate is a good feature and does not cut up the wall surface into so many small areas, a fault of individual windows. Quaint window effects are obtained by the use of small rectangular glass panes.

The buttresses of the front steps with their smooth cement caps give a sense of permanence and strength to the entrance. The cement coat is rougher than is usual but not extremely so. On the right is seen a house which has a very rough surface in harmony with its own architecture but which would be out of place for the house under consideration. It will be seen that care should be taken in the selection of cement as an exterior coating, not only as a coating, but in the more artistic sense of varied methods of application, this also in its proper relation to the style of architecture of the structure.



A VIEW OF THE COURT

Combination Architecture

By Mrs. Kate Randall

Photographs by F. W. Martin

WE ARE indebted to the Japanese for much that is charming in all lines of art, and not the least of our borrowings is the grace of their architecture. When cleverly modified to suit our needs, and particularly when combined with the Spanish mission style, the results are most successful. The broad eaves and sweeping curves of the long room are well adapted to a sunny climate and one-story buildings. The best examples are either built of solid concrete or have a timbered frame entirely covered with the plaster, though some very effective houses are seen, where the frames are partly exposed, merely plastered between the joists. Many architects still cling to the old terra cotta tiles for the roof, but as these have been found almost too porous, a metal tile has been successfully substituted, but the latest fancy seems to be the use of Malthoid as a roof covering. This is a very heavy building paper, which comes in large sheets and is nailed

to the roof boards—lapping well over the edges of the wide eaves. It is said to be very durable when kept well painted, and is certainly very effective, having the appearance of a heavy lead sheathing. The Japanese mission combination is well brought out in the house illustrated. The heavy beams and projecting timbers, the hanging balconies and pagoda-like roof, are entirely Japanese, while the plastered walls and central court suggest their Spanish origin.

It has but one story, with the exception of two pagoda-like towers, which are raised somewhat above the general level of the roof. The tower in the center, directly back of the courts is a part of the den or smoking room, a few steps leading off to this very charming roof parlor. The other tower, at the southeast corner of the house, is used as a sleeping porch and is easily accessible from the sleeping rooms below. From the center of the court, one enters a square hall—the main entrance of the house. Opposite this



THE ENTRANCE

entrance is the den or smoking room, at the right the dining room and on the left the very large living room. The windows of this beautiful room command a view that is rarely surpassed and the architects are to be congratulated on their successful arrangement of windows and big stone fireplace.

The exquisite finish of beamed ceilings and woodwork is a feature of the whole house and particularly of this room.

Projecting wings form the sides of the court, and from the living room, a long hall runs the length of the south wing, with many casement windows opening into the court. Bed rooms, dressing rooms and bath rooms are well arranged, leading from this hall, which ends in a large room, the southeast corner of the house. Adjoining it is a most complete nursery with its own bath and diet kitchen, and above these, the sleeping porch mentioned before. Leading directly from the corner bed room and convenient to the nursery, there is a large porch on the south, quite away from the main entrance and chance callers. It forms a delightful out-of-door living room. The north wing is entirely devoted to butler's pantry, kitchen and servants' rooms. They have their own entrance, away from the court, into the kitchen garden on the north.

The timbers of the roof and all ex-

posed beams are treated with some preparation which produces the effect of age. The silvery tone of old sandal wood—the beautiful volcanic wood of Japan—all other exterior woodwork, frames of doors and windows, etc., has a slight trace of green in the natural oil finish—so slight, however, that one barely recognizes it as a tint.

This harmonizes well with the green tint of the plastered walls and the artistic door of the main entrance carries out the same scheme of green in its opalescent glass, set in heavy brass mouldings.

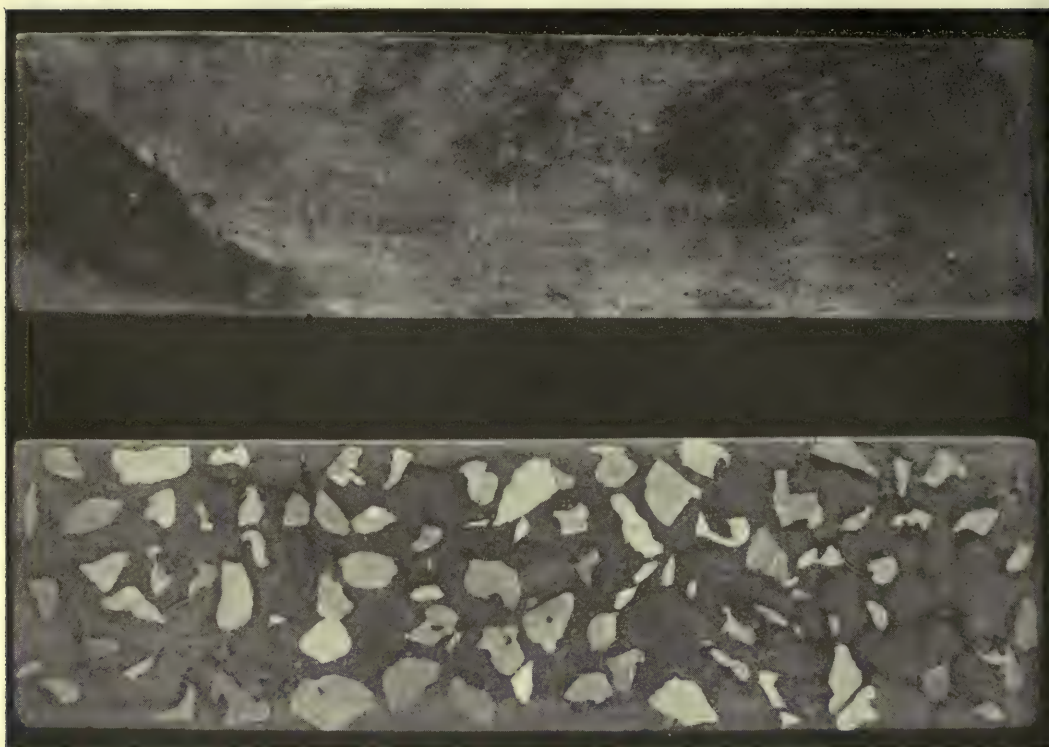
The court is paved with large red tiles. There is a beautiful central pool and fountain, surrounded by palms and feathery bamboos. Low, comfortable seats fill the spaces beneath the windows, but the most attractive feature of all is the sense of dignity and repose which pervades the whole—a feature unfortunately lacking in many of our modern homes.

However perfect a house may be architecturally, its success, as a whole, is made or marred by its setting, and how often one must wait many years for this perfect setting to mature. In this case the owners were fortunate enough to possess a fine old orange grove with a background of towering eucalyptus trees, needing but the touch of an artist's hand to combine the old and the new into a most beautiful home.

Concrete Brick

A Building Material of the First Class

By Warfield Webb



TWO PLEASING DESIGNS

AMONG the materials that are finding favor with builders of modern structures, concrete brick claims its share of just recognition. The fact that this form of building material has thus far been adopted by a proportionately small number of constructors, is due more to their ignorance of the real merits of a properly made concrete brick than to any fault that might be possessed by the material itself. This is made plain when it is understood that there are many admirable features in connection with a well made concrete brick, that are not possessed by many forms of structural material on the market today.

Like other commodities that are not understood, or that have been presented to the people in the wrong light, concrete brick have been held in abeyance by many who were skeptical, simply because they did not know the real value of this material for structural purposes. It is often said that there is no merit in a concrete brick, but the author of the statement is nearly always one who has no real knowledge of what is meant by a concrete brick, made on a machine that has merit to perfect an article that will equal the best clay brick made.

This sounds like a very elaborate and a very unsound statement, but the facts are borne out by practical demonstra-

tions, and the greater adoption of concrete brick is certain to be the outcome. It is not the object here to decry clay brick, but to prove that the concrete brick, if it has been made with care, is equal to and nearly always superior to other building materials. How to obtain this result is the secret that must be gained with pains and sound judgment. It is a fact, and the same results that are being outlined today by a limited number of operators, can be accomplished by others who are willing to learn.

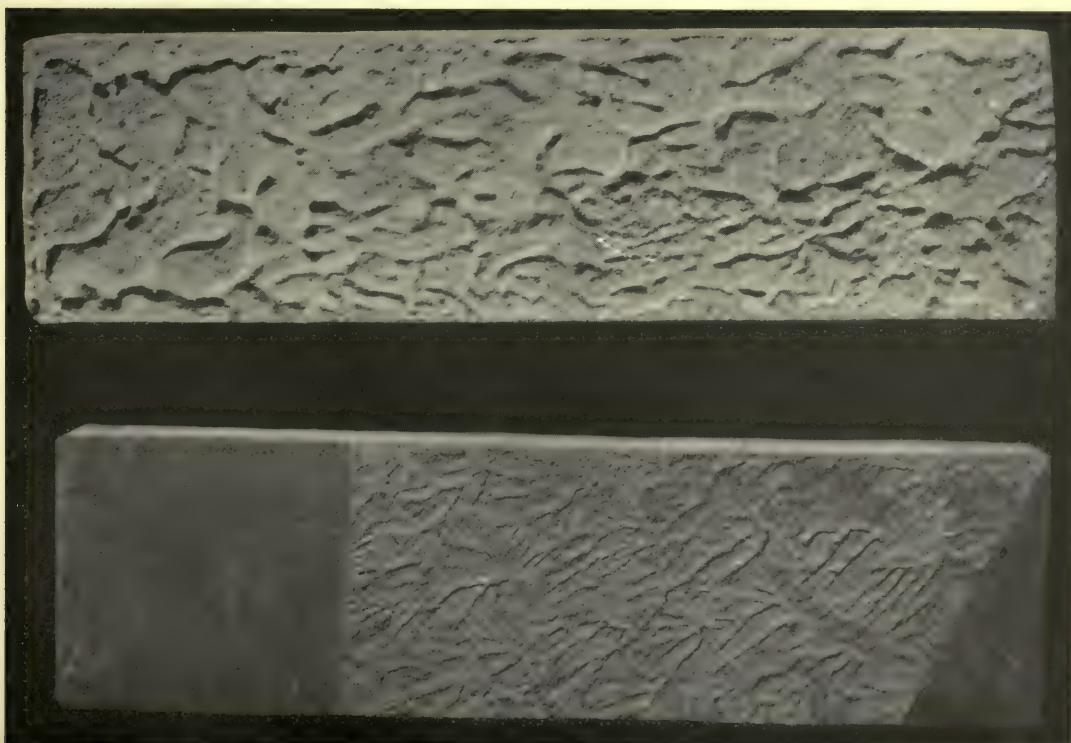
Primarily, the first essential to the perfect concrete brick is the best materials obtainable. These can be had, but care must be exercised in their selection. Portland cement that is of the best quality; clean, sharp sand, and either gravel or crushed stone, or many other aggregates, for that matter, may be used and the desired results obtained. With the



ORDINARY CONCRETE BRICK

materials should be united a modern plant. By this is meant a plant equipped with the best concrete brick machines, a steam tunnel, and first class mixer. This does not necessitate a great outlay of capital, and the plant can be operated upon an economical plan that will keep the expenses reasonably low.

For backing brick a mixture of three to five can be used and the result will be ample for the purpose. There is not much care needed in the manufacture of these brick, and they can be used in ordinary work, giving the same results



ATTRACTIVE FACES OF CONCRETE BRICK

as ordinary clay brick, save that they are harder and more durable. For facing brick, however, which will combine many styles, there is more care to be taken, and a mixture of not less than one to five should be used. One man can turn out from three to five thousand face brick per day, or even more, if he is an expert, and as many as twenty thousand backing brick can be manufactured by five men in a day of ten hours. The latter brick are made on power machines, which are operated automatically and are naturally time savers. However, the chief use for concrete brick now is for face brick, because the possibilities of manufacturing them in a variety of faces and colors is so great that there is a wider field for the activities of the operator.

One of the prime objects in favor of the concrete brick is the comparative cost of these and clay brick. It is safe to assert that the concrete brick can be manufactured cheaper than clay brick, for ordinary brick, and far less in proportion to the more attractive styles of clay face brick. There is, however, an item that must be considered carefully in the manufacture of concrete brick and that applies to the operation of the machine itself. In manufacturing concrete brick, particularly face brick, the machine should be operated with the face upward so that the varying styles can be perfected in this way. Where the face of the brick is down, one has no opportunity of manufacturing brick that will be noted for their attractive faces, and also there will be no possibility of making the face altogether waterproof, this being done by trowelling or floating the brick, an operation of the machine itself. This is only possible on an up-face machine.

When the brick are taken from the ma-

chine they should be loaded on tram cars and placed in the steam tunnel, which should not vary in temperature more than 100 degrees or less than 75, the moisture and heat simply being sufficient to gradually cure the brick without causing them to dry out before crystallization has taken place. The ordinary way heretofore used of curing the concrete brick was by moistening them at repeated intervals, which is very uncertain, unless done by an experienced man, and then not nearly as satisfactory as when done in the steam chamber. On the other hand it will require longer time to cure the brick by wetting them in this way than by steam curing them, the latter operation requiring only from twelve to twenty-four hours to complete the work.

Note the tensile strength of clay and concrete brick. Tests have been made to prove that concrete brick can withstand considerably more pressure than clay brick. The granite test is three thousand pounds and concrete brick have exceeded this by over two thousand pounds per square inch. Their ability to withstand fire, moisture and frost has been made so plain that no one who has seen the tests can longer doubt or dispute the fact that there is real merit in a concrete brick that has been made with care by the operator.

While there might be a possible danger in concrete work as applied to monolithic, reinforced or block, the likelihood of danger in using a well made concrete brick is placed at the lowest minimum. The small unit is an item in favor of this and this is only obtainable in the brick form. Concrete brick will come, but education must make this possible, and a first class article will add to the earlier advent of this most modern form of structural material.

How to Protect Structural Metals

Courtesy of O. C. Harn

(Continued Series as formerly run in the Journal of Modern Construction.)

Article III

What Red Lead Is and How It Is Made.

Red lead is an oxide of lead and if of theoretical purity, contains 90.65 per cent. of lead. Its formula is Pb_3O_4 and apparently it is plumbate of lead, formed by the combination of peroxide of lead (PbO_2) and litharge (PbO). It is a red powder varying in color from a light orange to a dark red.

Metallic lead is melted and, in the molten condition, is slowly oxidized to litharge. This litharge is a more or less yellow substance and, for the purpose of making red lead, should be as free from crystals as possible. The litharge is finely ground and then placed in a reverberatory furnace and subjected to a low red heat. At this temperature it slowly absorbs oxygen and is converted into red lead according to the following equation: $3PbO + O = Pb_3O_4$.

The oxidation of litharge to red lead is never complete; that is to say, it is almost impossible, in the present state of the art, to oxidize all of the litharge to red lead.

There is one form of red lead, using the term in its generic sense, which is made by the oxidation of white lead. This is known as orange mineral, and, on account of its original fineness and its amorphous condition, is more readily oxidized and, consequently, usually contains a lower percentage of litharge than red lead made from metallic lead.

The temperature at which litharge is manufactured is ordinarily above $1,600^{\circ}$ F. The temperature at which litharge is converted into red lead is between 900° and 1000° F. If the temperature is ma-

terially below 900° , little or no oxidation takes place. If it is materially above 1000° , the red lead gives up oxygen and is converted back into litharge.

Red Lead Should Be Fine and Highly Oxidized.

For painting purposes, red lead should be as fine as possible. If it is not sufficiently fine, it will tend to run when mixed with linseed oil and it will have an inferior covering power. Red lead should be oxidized as highly as is reasonably possible; that is, it would appear that a red lead which contains over 90 per cent. red lead and under 10 per cent. litharge makes the best combination for painting purposes, and the standard of quality should be placed at this figure.

The color of red lead depends to some extent upon the purity of the pig lead or other materials from which it has been made. If made from a reasonably pure pig lead it will have a bright, clean color. The difference in depth of color depends largely upon its fineness. The finer the red lead, generally speaking, the more inclined it is to an orange color. The coarser the red lead, generally speaking, the deeper will be the red color. Red lead, if finely ground and made from unvitrified stock, should to the naked eye show only occasional glistening particles.

No Mill Necessary In Mixing.

In the preparation of paint by mixing red lead with linseed oil the use of a mill is unnecessary. The red lead mixes readily and can be stirred into the oil so as to obtain a suitable paint with little difficulty. It has some tendency to settle out of the oil, so that the paint should be occasionally stirred during its use.

If the red lead contains a high percentage of litharge, this litharge is apt to act on the oil, forming a lead soap and, when allowed to stand for any length of time, occasions hardening in the bottom of the keg or barrel in which it has been mixed. If, however, the red lead is finely ground and contains less than 10 per cent. of litharge, the tendency to harden is not great; so that the paint mixture containing such a red lead can be allowed to stand several days without becoming hard enough to prevent its being readily blended with the oil again.

In the preparation of red-lead paint, raw linseed oil can be used, or a mixture of raw linseed oil and boiled oil in the proportion of two of raw to one of boiled oil. It is preferable not to use any liquid drier, as that contains a volatile thinner, such as turpentine, which tends to impair the working qualities of the paint. Generally speaking, the amount of red lead to be used in the preparation of red-lead paint should be as large in proportion as possible in order to obtain the best results. Thirty-three pounds red lead to one gallon of oil is recommended as a general proportion, although twenty-eight pounds to the gallon of oil may be found more practical under some conditions. A reduction in the amount of pigment should be made only when the circumstances of the case particularly demand it.

Red Lead's Relation to Linseed Oil.

The nature of the relation between red lead and linseed oil in paint is a matter of some dispute. It is believed by some that red lead forms a cement by combining with the linseed oil. It would seem, on the other hand, that this combination only takes place in proportion to the free litharge present and not between the red lead and the linseed oil.

It appears also that much of the character of red-lead paint is given to it by the effect the red lead has upon the drying of the oil, the lead and the oil drying all the way through, while a manganese drier dries on the surface. It has

been suggested that the boiled oil used with red lead should contain no manganese. This may be a good practice. It seems more likely, however, that the amount of lead present is sufficient to overcome any tendency towards surface drying given to the boiled oil when manganese is present in it.

The Uses of Red Lead.

One might cover the uses of red lead as a protective paint for metals in the words: "Wherever metal is used." It may be profitable, however, to enumerate some of the more important fields in which a protective paint is required and call attention to some of the considerations peculiar to each.

Structural Iron and Steel.

The architect and engineer are probably more vitally interested in the proper paint for metal work than any other class of paint users, for more serious consequences follow a mistake upon their part. Not only may vast sums of money be lost through the imperfect protection of the iron and steel skeletons of their structures, but human life itself hangs upon the proper preservation of those great steel frames.

An architect or an engineer may correctly figure the stress and strain, and the manufacturer may conscientiously turn out steel of the finest strength and quality, but unless rust is kept from the columns, beams and girders, the strong, safe skyscraper of today may become a death-trap a few years hence.

An excuse which might pass muster if only ordinary business risks were involved is utterly inadequate to defend the use of a substitute for red lead.

Thus one sometimes hears an excuse like this: "Yes, I know red lead is the best paint for metals, but what I use is more convenient and I guess it does pretty well."

In the face of what is at stake, it is scarcely conceivable that any responsible man could make two such admissions in the same breath, namely, that "red lead is the best," but "I am using something else."

Problems in Concrete

By H. Edward Walker

(Continued Series as formerly run in the Journal of Modern Construction.)

Article XIII



AVING taken up the subject of foundation walls and their construction in concrete it is fitting that walls above grade

be next considered.

A few of the different methods are here presented and to the practical mind, variations of their construction will be suggested to meet special requirements.

The walls shown are suitable for dwellings in thickness and for larger buildings where piers are placed at proper intervals. The construction would be of service in most any case by varying the thickness of the walls. No attempt is made to illustrate special construction, only typical wall sections being shown. Illustration A is of a monolithic concrete wall in the center of which a two-inch terra cotta tile has been placed to form an air space.

This idea was carried out in three houses, one of which appeared in Article XII. The houses were built on grounds the whole length of a city block and are now about five years old. The entire wall was poured between two fourteen-inch planks and the tile was inserted by hand, as each batch was poured. The tile was placed with the interspaces running lengthwise of the wall. There would seem to be some advantage in placing the tile end for end, forming a vertical air space from bottom to top. Good ventilation of the entire wall would thus be obtained and it is not likely that the strength of a properly built wall would be sufficiently impaired to make it unsafe for dwelling houses. This would be an item for consideration in larger structures if this method was adopted.

As it is the wall has been dry, no complaints having been heard in the five years of its history. The internal and external faces are shown in plaster and cement finish.

Illustration B is a similar method, in which the tile is placed upon the inner surface of the wall. This would be an advantage in removing the inner form, the planking being unable to stick to the tile. In this case the tile would not be considered as a factor in the strength of the wall and should be placed with the interspaces in the upright position, to provide ventilation where desirable. The union between the tile and the concrete will be of such a character that the position of the tile is not important. There is no special reason for using terra cotta tile, rather than cement tile, if the latter can be obtained as readily in a given locality. This method is used in an artistic house built at South Orange, N. J.

Illustration C shows concrete tile as a building material. It comes in a variety of sizes and can be given an external surfacing, after the wall is built, or not, as may be thought desirable. Internally, the usual coat of plaster is applied directly to the tile. The blocks may be laid up in ashlar effects either regular, facer and binding courses or random, by using tile of different sizes. Four and eight inch are sizes commonly used to produce these effects. Many very desirable houses have been built of this material and the exterior walls were made eight inches in thickness. All the interior partitions were made of tile four inches thick and twelve by twelve square. This material may be properly classed as concrete because the aggre-

gate is of concrete, mixed to suit the conditions necessary to produce a hollow thin walled block.

The fire resisting qualities of this system are of the best and in like manner its resistance to cold.

Illustration D shows a concrete brick facing, backed up with a six or eight inch cement tile wall with plaster directly upon the inner surface.

Concrete brick has not been very attractive in appearance until lately, although its strength and durability have long been recognized. Experiments along the line of artistic surfacing, coloring, and a judicious use of aggregates have made it possible to produce some surprising results, the beauty and artistic worth of some of the better specimens being beyond question. A wall of this kind allows the use of all the pattern effects obtainable, by the use of clay bricks, but also requires the service of a skilled bricklayer.

The brick is bound to the tile backing with metal wall ties, at intervals, in addition to the mortar and may be erected simultaneously, or independent of it if the ties are inserted in the material first erected.

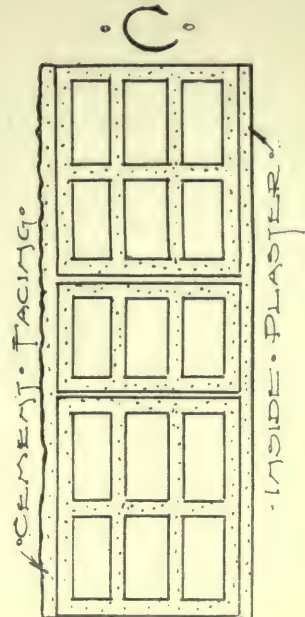
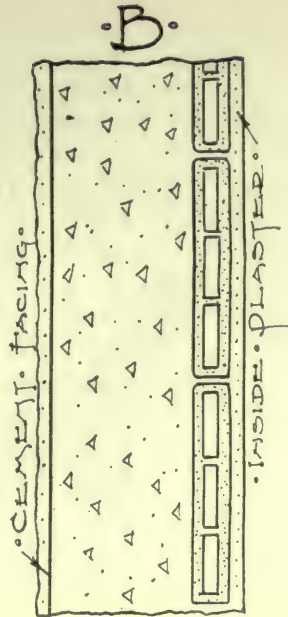
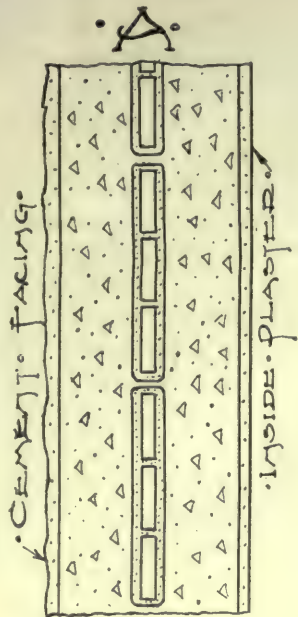
Illustration F shows the ordinary monolithic concrete wall as ordinarily poured in forms, with an outer finished surfacing of cement of a character, as may be desired. At the time of pouring wires were placed between the boards at intervals that they might become securely imbedded in the concrete, leaving a free end upon the interior surface of the wall. In this way expanded metal lath, having a high rib at regular distances on centers, can be attached, on which to plaster. The presence of the high rib keeps the plastering away from the concrete wall, forming an air space which prevents frost from penetrating to the finished wall surface of the room. This method of solving this problem is

a good one and might even be applied to a wall already built. It would be necessary to plug the wall in order to attach the wires for the lath, unless they had already been provided.

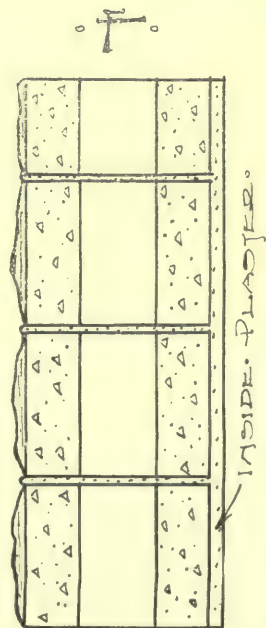
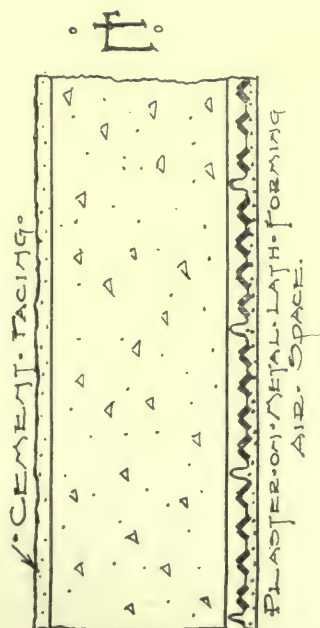
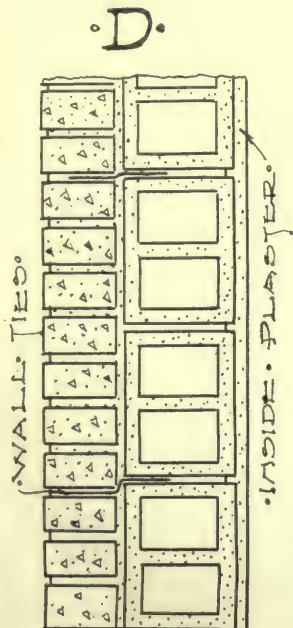
Illustration F is a section through a wall composed of cement blocks. No attempt has been made to show any particular system of block construction. The underlying principle is the same, that of a central air space surrounded by inner and outer walls of the block. The better designed systems aim to have no block extend entirely through the wall, that frost may not be conveyed to the inner surface. This has been overcome in a great many ways, one system, comes to mind, which has a continuous block, but it contains a double air space. In adopting any concrete block system, this point should be looked into with great care. If after a thorough explanation it cannot be demonstrated that frost will not penetrate, that system, if used, must be backed with a plastered wall as in illustration E, to insure a dry wall. It is not necessary to use metal lath for this purpose, as furring strips and wood lath will answer, but of course are not fireproof. A metal lath is better galvanized, if there is considerable dampness coming through the wall.

Architects have held aloof from the cement block for a long time, because the early blocks, in most cases, possessed neither artistic beauty or stability. Like a great many new things, misleading statements were made, which caused a great amount of comment. Men who had never used a bag of cement in their lives looked into the matter and conceived the idea that there was a fortune within reach by mixing almost anything with cement, in the form of blocks.

As a result block appeared on the market of a color resembling mud commonly seen in the street and of a facing utterly impossible for anything but the



CONCRETE WALL WITH TILE INLAY. CONCRETE WALL WITH TILE DACKING. CONCRETE WALL OF TILE BLOCKS.



CONCRETE BRICK AND TILE BLOCKS. SOLID WALL. AIR SPACE BY METAL LATH. CONCRETE BLOCKS WITH AIR SPACE.

H. EDWARD WALKER, DEL.

most ordinary structures. In many cases, if the block did not actually crumble, it soaked water at each storm to such an extent, that the wall was wet for days after. Manufacturers of block machines added their quota to the trouble by making facings which were not logical or artistic. Often a rock face was produced which in itself was good, but when each and every block was identical the wall lacked the variety seen in a real stone wall. Utterly absurd was the casting of several brick together in one block. No possible amount of pointing up could make it look like a real brick wall because the joint between the blocks were always apparent, cutting entirely across the bricks that should have been continuous. This was even carried out in cobble stone effects, which are seldom well done even with the real article. These things kept the cement block from getting a foothold as a building material and many honest-minded people couldn't see why, because the dif-

ficulties required special training to obviate. Architects came in for a great deal of unmerited criticism, but this did not make the blocks more attractive or influence artistic judgment. There is just enough of the impracticable about the first class architect to make him place his profession and the artistic execution of his work before his own personal interests. For these reasons it was difficult for the cement block to get the right start. Progressive men took hold of the matter with a view of finding out, if the trouble existed, what it was. Soon the requirements of the architects were considered and today the cement block, properly made, is a thing of beauty and may be used to advantage in important work.

At the cement show at Chicago next month every conceivable variety of block will be seen, showing what a great advance has been made from those early mixtures of mud and inexperience.

(To be continued.)

A Spokane Home

By Courtesy of Keith & Whitehouse, Architects

SPOKANE, a city of 125,000 people, lying in a great fruit country, is surrounded with suburban acre tracts. These tracts contain the homes of many who are lovers of the country life and freedom, yet whose business is in the city which is easily reached by the suburban electric lines.

The illustrations shown are of such a home built at Glenrose, six miles from the center of Spokane. The house faces east on Cherry Lane. This lane derives its name from the fact that each side is

bordered with cherry trees which give forth their beauty of bloom in the spring and shade and abundance of fruit in the summer.

The house nestles close to the western side of a bluff sixty to seventy feet high and commands a beautiful view across a small valley dotted with suburban homes and orchards, through which runs the electric railway only a quarter of a mile distant from the house, then beyond the valley is a rising eastern slope and high beautifully timbered hills.

Here one may live, 'mid fresh air and



A NORTHWEST BUNGALOW

flowers, sunshine, gardens and fruit, free from the city's smoke, noise and bustle, free from the heavy burdens of city taxation and mistaken social obligations, yet so close, only twenty-five minutes' ride to the center of the city, that none of the city's pleasures and conveniences need be foregone.

This six-room home is modest yet complete in all its appointments.

The rustic stone of the piers of the porch and walls and chimney base was picked up with moss clinging to it from the nearby bluff. The stone is laid up in black mortar with recessed joints, leaving the stone work with an extremely rough face.

The facing of the chimney is of clinker or cull brick. These bricks are twisted and many are melted together, giving off pleasing bright colors from their surfaces, where the intense heat of burning has caused a glazed surface.

The outside main walls are of narrow siding, painted a light gray, the trim is

painted ivory white. The gable panels are finished with a fine screened gravel.

All porch floors are of cement, as are also the entrance and carriage steps. The porch balustrade is of rough plank, sawed in a pattern and stained a soft green.

The roof shingles are stained a soft green.

The front bedrooms open onto a screened sleeping balcony.

All windows of the second story and attic are casements, hinged to open.

The main rooms are finished in curly fir, stained and waxed.

The living room has a wood cornice, chair rail and corner panel piece. The south wall is taken up with a built-in brick fireplace at one side of which is a built-in book case and on the other a writing desk. Above the book case and writing desk are leaded casement windows.

The north end of the living room is given up to the entrance vestibule and stairway. These are separated from the



VESTIBULE AND STAIRWAY FROM LIVING ROOM

main room by a double column opening. All the finish is plain with scarcely any moulded work.

The dining room is shut off by sliding doors. The rear wall is taken up by a

simple sideboard and built-in seats on either side.

The second floor gives three good sized rooms and bath. There is ample room in the attic for one additional room.



THE LIVING ROOM FIREPLACE



THE DINING ROOM SIDEBOARD

The main floors are maple; others are of fir.

The basement floor is cemented and ceiling is plastered.

The basement contains a hot air heating and ventilating furnace, vegetable room and fuel room.

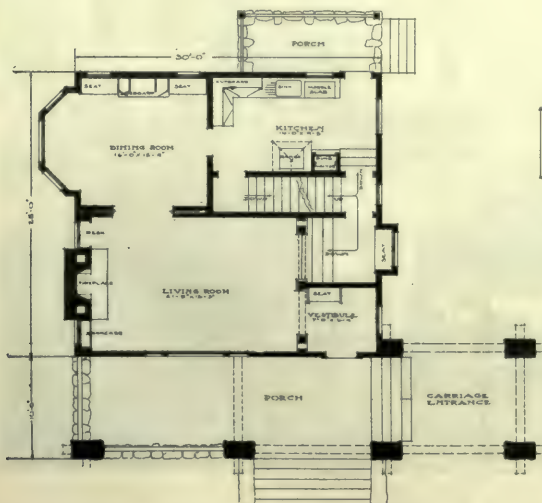
In the kitchen is a dumb waiter, running to the vegetable room. Built-in

cases in the kitchen give ample storage for all dishes. Provision is also made for flour and meal bins, utensil cupboards and drawers.

The owner has a fine water supply by a windmill and cement tank back on the bluff at the rear of the house.

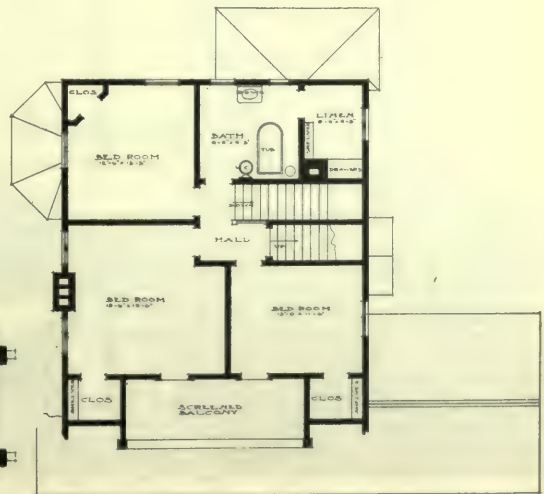
The sewerage is drained to a cesspool.

The cost of the house as described was about \$4,500.00.



FIRST FLOOR PLAN

COUNTRY HOME FOR
E. C. WILKINSON, JR.
ROSEDALE, WASH.
ARCHT. KEITH



SECOND FLOOR PLAN



FUMED WOODWORK, WITH DULL YELLOWS, GREENS AND BLUES IN DECORATION.



WITH SIMPLICITY AS A KEYNOTE.

Designs for the Home-Builder

WITH so many beautiful and suitable designs, available from many sources, it is a matter of regret that so many people make a poor selection. Almost any publication, of popular interest, contains designs of up-to-date pleasing dwellings. Architects have made great strides in recent years, in the conception of home ideas. A client is no longer advised to build a house in a certain style because it happens to be the fad.

After the requirements of a family have been considered, as to the number of rooms necessary, some thought should be given to the best style of house to build on the lot which is to contain it. A level lot with few trees or none at all may have a house on symmetrical lines in a distinctive style, suitable to formal effects. Where trees abound and the land slopes to different levels, a rambling picturesque habitation is best. A careful study of all the conditions is necessary. Often important items are not considered at all. A certain style is decided upon and as long as its arrangement meets the requirements, no further thought is given. It may be entirely out of place in the setting it receives, however appropriate in other situations. In selecting a design try to know all the requirements.

Design "B105."

The outside walls of this house, including porch walls, are of monolithic concrete, 12 in. thick and provide for a 2-in. air cell, formed by the insertion of 2-in. planks laid horizontally in the form and drawn as the walls are constructed.

The basement walls are solid monolithic concrete, and all floors and roof reinforced concrete. Gutters and eaves

will be of reinforced concrete. Beam work over veranda and loggia will be of concrete, a $\frac{3}{4}$ -in. iron rod being imbedded in each beam for reinforcement.

All outside walls and ceilings are plastered directly on the concrete. Interior partitions consist of metal studs and wire lath.

The roof is covered with Mission dull glazed tiles.

The window and door frames are of wood.

The interior trim is of clear, plain white oak in the first floor, except service portions and kitchen, which will be of yellow pine. The second floor is trimmed in birch. All finished floors throughout the building are of clear red oak, except attic, kitchen, and service portions, which are of yellow pine and maple. First floor woodwork is stained and filled and given a coat of shellac and a coat of flat varnish.

All other woodwork is either enameled, or given three coats of good interior varnish. Plaster is sand finish and stained with pure pigments and glue, the whiting, as in kalsomining, being omitted.

The exterior exposed walls of the building are of an ivory tint, produced by introducing the color into the concrete in liquid state. Trimmings outside to be cream color.

The veranda, vestibule and loggia floors are of concrete marked to represent tile, coloring being introduced with the concrete in liquid state. The designer estimates the cost at about \$8,000.

Design "B106."

This unique house is built at Berkley, a suburb of San Francisco. The outside walls and roof are of cedar shingles. The

trimmings are of redwood treated with several coats of outside varnish.

Clinker brick is used for the external portions of the chimney laid in very uneven courses.

The cantilever effect of the porch is a prominent feature of the design. The balconies at the third story are used for flower boxes. The interior finish is of slash grain pine throughout, designed with as few mouldings as possible. The floors of the principal room are of oak. The corner windows, rough sand stone mantel and the book cases, take up the entire space of the front wall. Over the book cases are small windows filled with a Japanese fibre design of birds, between two pieces of glass. A new idea successfully carried out.

Of the four chambers, two have stained woodwork and two ivory enameled. The bath room and pass closet have tiled walls. The architect places the complete cost at \$6,500.

Design "B107."

A dark brown stiff mud brick forms the base of this house up to the sill course of the windows. Above this common brick is used and is given a stucco finish. The exterior woodwork was used direct from the saw and was stained a dark brown.

The interior finish is of stained Texas pine and vertical grain Texas pine floors. The walls are tinted. There is no furnace. The architect states that it cost \$2,000, and it certainly is a very pleasing little home.

Design "B108."

Artistic is the term to apply to this charming home. Its details are classic in outline and have been very carefully worked out, which gives the house style like a well tailored garment. The combination of materials adds much to the success of the design. Shingles or siding used about the porch and walls to the

level of the second story windows, is joined to a cement finish above.

The entrance porch is unique in its treatment but very pleasing with its composition and ornamentation.

The house contains reception room, hall, sitting room, dining room, pantry and kitchen on the first floor.

There are four good chambers, a dressing room and a bath room on the second floor.

The finish of main rooms of first story is white oak or birch with pine painted for the balance. A hot air furnace is included in the estimate. The cost, as above described, would be about \$3,800.

Design "B109."

A house suitable for a narrow lot, is often hard to find with rooms of good size, but in this case the problem has been very nicely worked out. The house is cement coated and has a moderate amount of half-timbering. The design is simple and the solid effect of the porch piers give it an air of strength. The first floor contains vestibule, hall, living room, dining room, kitchen, pantry and entry.

There are four good chambers with bath room, linen closet and stairs to attic on the second floor. The interior finish is of birch.

The cost, \$3,800, is the architect's estimate, complete with hot water heat.

Design "B110."

This is a cozy little home of six rooms and bath, all on one floor. The rooms are good sized and well lighted.

The entrance is made directly into the living room. At one end is the fireplace, on either side of which is a cozy seat, with casement windows above.

At the other end of the living room or the opening into the dining room is a beamed ceiling effect under which are built-in bookcases, opening into the living room.

The dining room is fitted with a built-in sideboard which has ample space for china above, enclosed with leaded glass doors, and drawers and cupboards below for linen, silver, etc. At the end of the dining room is an oriel bay with four casement windows, an ideal place for potted plants.

The kitchen has a built-in buffet and dish closet with ample space for cooking utensils of all kinds. The back door opens to an enclosed porch which is arranged to house a refrigerator.

The den makes a cozy sanctum with a wide, generous window seat.

The bedrooms are of good size and have spacious closets.

The bath is fitted with porcelain enameled fixtures and is close to the bedrooms.

Off the hall is a linen closet with shelves and drawers.

The attic is a storage space.

The basement can be either full or half height.

Hot water heat is installed.

As shown by the cut the house is finished, on the exterior, with shingles to the window sills and from this point up the walls are plaster stucco on metal lath. A panel timber effect is worked in on the front gable.

\$3,500 is stated by the architects to have been the cost in Spokane.

Design "B111."

This pleasing little design is of interest because it is out of the ordinary. The exterior walls are of brick dashed over with cement and the roof is of shingles stained red, forming a pleasing contrast. The quaint windows and picturesque flower boxes give an old world flavor which is very charming. The plan is excellent and the interior is finished in Georgia pine.

With furnace heat and modern plumbing the architects estimate the cost at \$2,500.

Design "B112."

A square brick house on simple lines possesses a quiet dignity of its own. This house is of that order. The approach and entrance is quite imposing, one-third of the width of the house being devoted to the steps, up from the lawn level. The front door opens to an ample vestibule and through this the hall is reached with its beamed ceiling, stairway and openings to reception room, living and dining rooms. These rooms are of generous size and each contains a fireplace so situated that it forms part of a vista, from one room to another. There is also a large kitchen, pantry, back stair and toilet room on this floor. The reception room and bath room are in white enamel, the kitchen and pantry in natural chestnut and the rest in quarter sawed oak. There are four chambers on the second floor those in front being in stained birch and the two at the rear in white enamel. There are two bathrooms on this floor with numerous closets. The attic stair is located over the back stair, opening into the rear hall.

The cost is estimated at \$12,000.

Design "B113"

This beautiful house has been admired by a great many people. Its quiet dignity wins it a place in the memory, as one of the best designs of recent years. It has all the old time simplicity and beautiful detail of the genuine Colonial. It would be difficult to overestimate it, considered in its proper use and environment.

It is not a large house, but it requires a wide lot for a proper setting. Its entrance is the central feature and it dominates the whole elevation by reason of its pure classic detail. The porches at either side give breadth and character, while the generous width of low hung cornice casts a pleasing shadow on cool, gray cement walls. The clinging vine finds a ready foothold on its rough surface, giving the house a dignified

(Design descriptions continued on page 39)



Thornton A. Herr, Designer

—By Courtesy of Universal Portland Cement Co.

DESIGN "B 105"



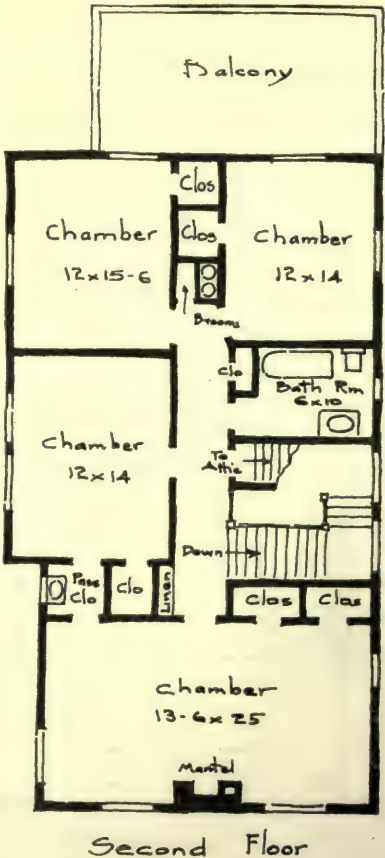
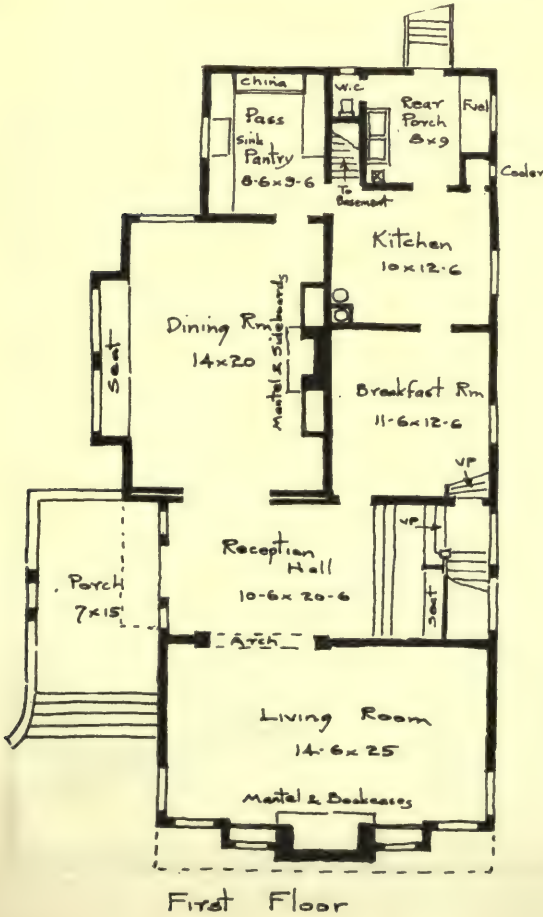
▼▼ FIRST FLOOR PLAN ▲▲



SKETCH OF A LIVING ROOM WITH RECESSED SEAT.



DESIGN "B 106"





DESIGN "B 107"

A. E. Sanders, Architect

air of age. The hall and living room are finished in a flat surfaced white, with mouldings of the best Colonial period. A concession is made to the prevailing custom, in making the woodwork of the dining room of dark English oak.

The fireplace of the living room and the sideboard of the dining room are placed

in juxtaposition as regards the whole scheme of arrangement, that a vista may be obtained in either direction. The kitchen and pantry are conveniently arranged with reference to the dining room and contain a model modern equipment.

There are front and back stairs, the

(Design descriptions continued on page 40.)





The Keith Co., Architects

DESIGN "B 108"

latter entirely separate from the main portion of the house, on both floors.

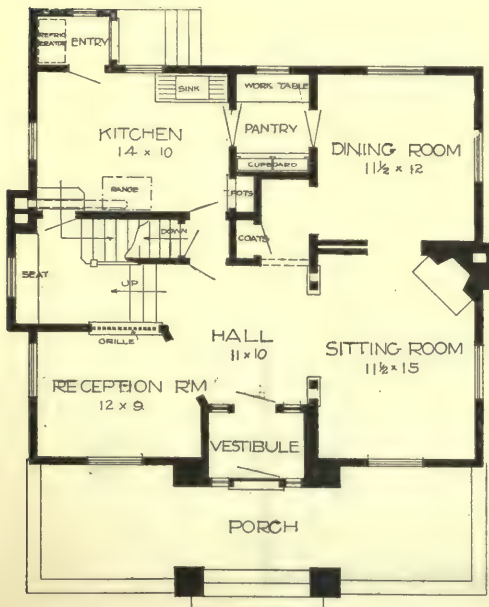
There are four chambers and bath room on the second floor with balconies over the porches.

The rooms are well supplied with closets and the whole arrangement is compact with no space wasted.

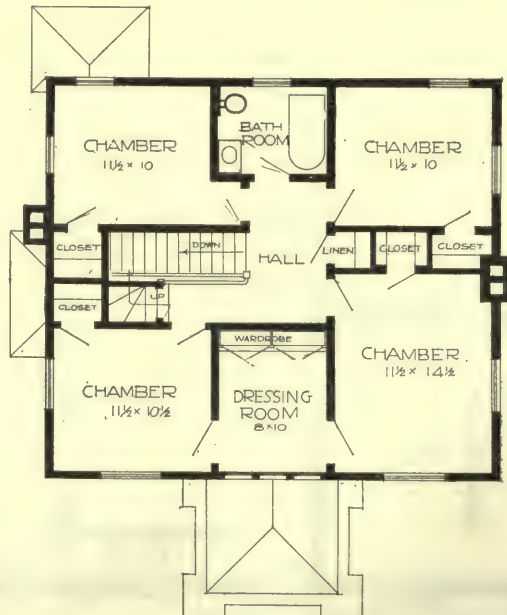
The large chamber, bath and hall are fin-

ished in white and the other rooms in natural birch. All floors are of hardwood except the tile floors of vestibule and bath room. A hot-water plant is included with radiation concealed as far as possible.

The house proper has a frontage of 40 feet and a varying width from 19 feet to 32 feet. It is estimated that the house could be built locally for about \$6,000.



FIRST FLOOR PLAN

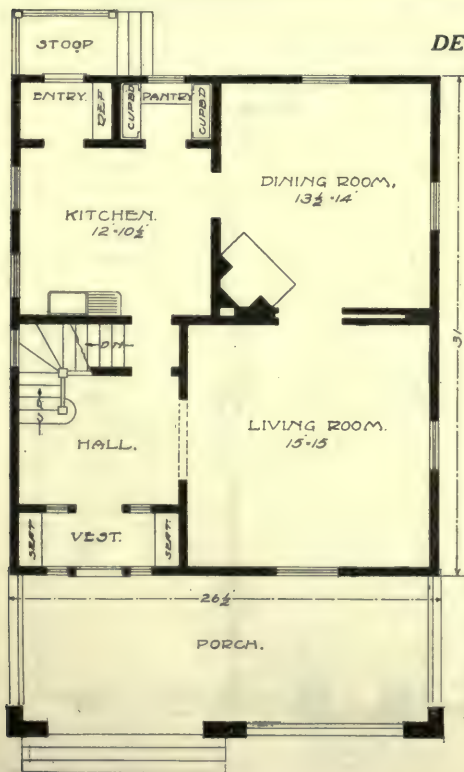


SECOND FLOOR PLAN

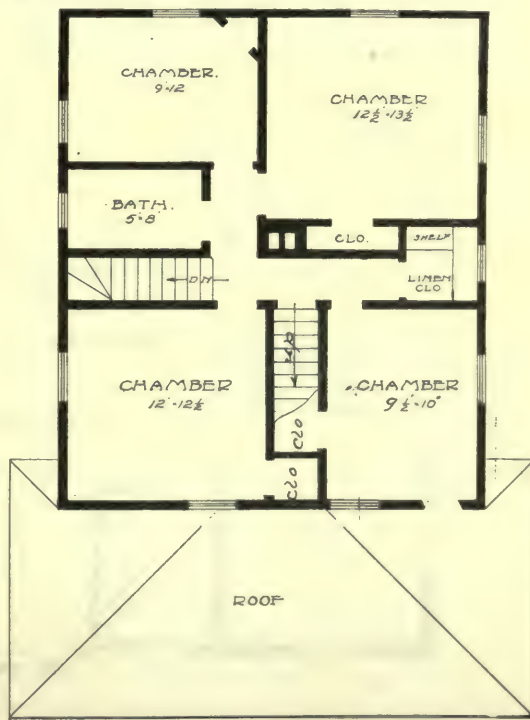


Arthur C. Clausen, Architect

DESIGN "B 109"



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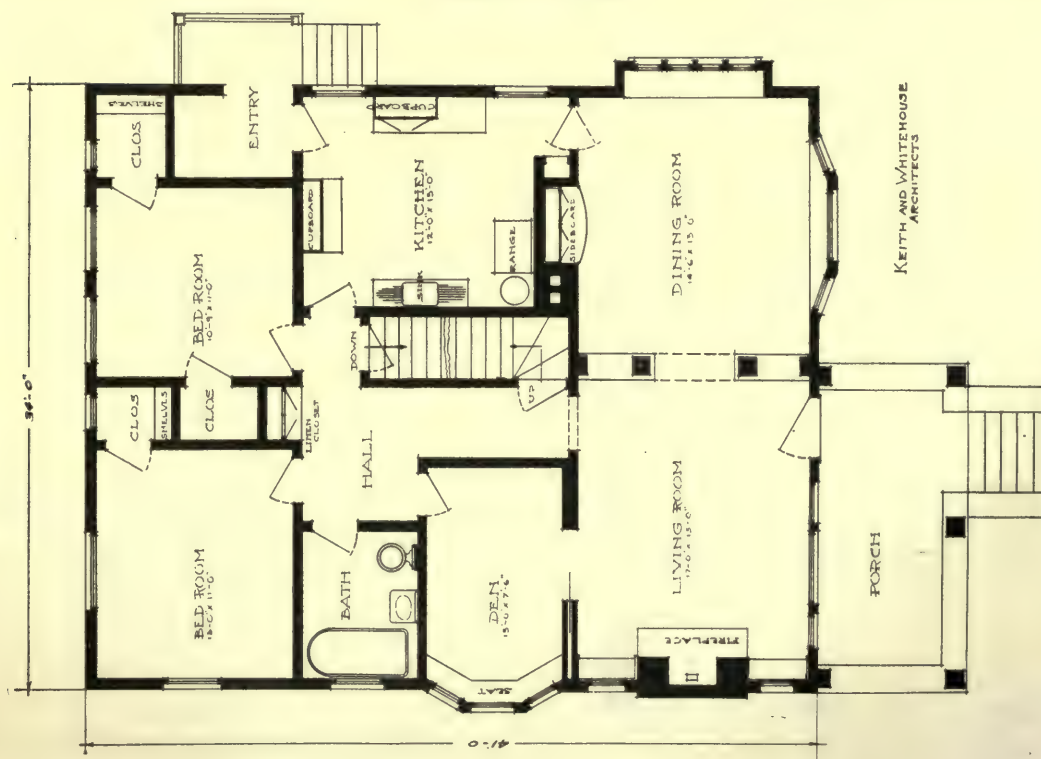


SECOND FLOOR



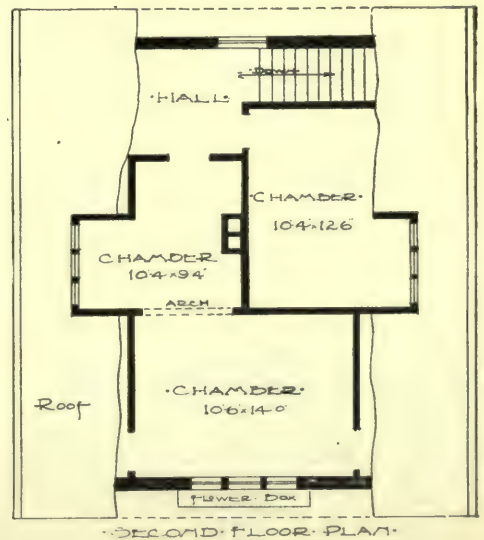
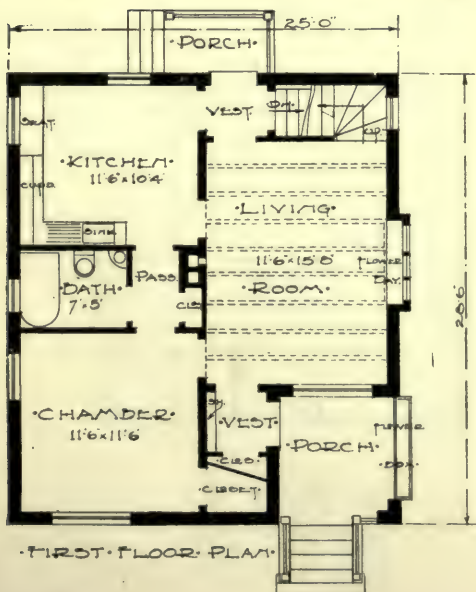
DESIGN "B 110"

Keith & Whitehouse, Architects





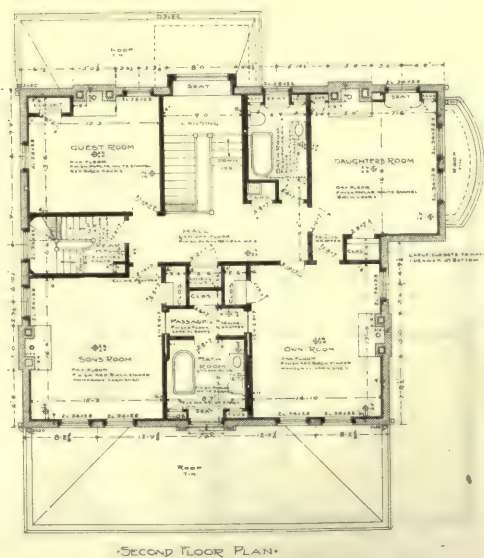
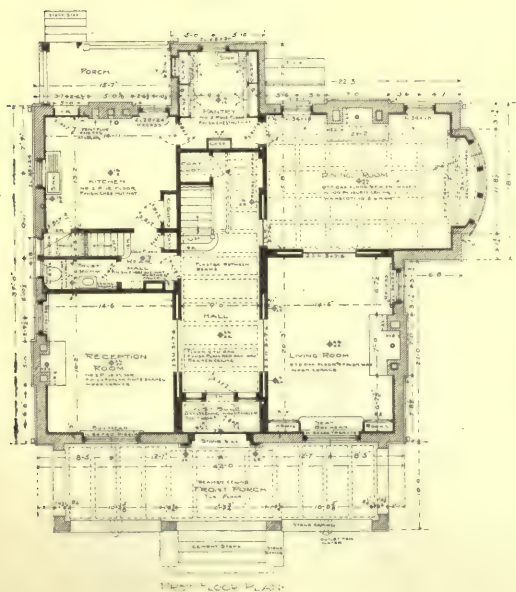
Edwins & Eichenfeld, Architects

DESIGN "B 111"



THE HOME OF G. A. HERMANN, ROSEBERG PLAN, BELLEVUE, PA.

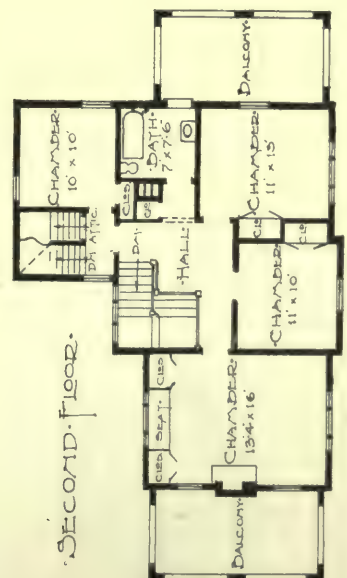
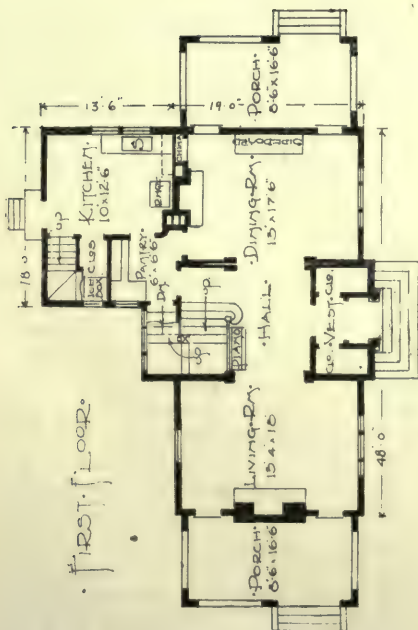
DESIGN "B 112"





Exterior by Wood, Donn & Denning, Architects

DESIGN "B 113"





Conducted by Eleanor Allison Cummins, Decorator—Brooklyn, N. Y.

Other Phases of the City Apartment.

LAST month we had something to say about the decoration of the square type of apartment, with special reference to an apartment with a northern exposure, suggesting a liberal use of the warmer tones of tan, yellow and terracotta. In this issue we will consider the same type of apartment, but with sunny rooms.

The Value of Gray.

Gray has two qualities: It reflects and it recedes. Both recommend it for small rooms, where both light and space are limited. It is a mistake to think of gray as always a cold color. Some grays are cold, the purple grays and the blue grays, and the pure grays formed by the mixture of white and black. A purple gray is frankly out of the question for any decorative purpose, cheerless by day, ugly by artificial light. Pure grays are good backgrounds for pink and red tones, best of all for the charming combination of pink roses and blue ribbons. The blue grays are in a class by themselves, valuable as a setting for certain sorts of pictures and china, not to be mixed up with other colors by any means. In fact it is one of the things decorators have learned of late years that cold colors have a beauty of their own, that effects other than those of warmth and cosiness are to be sought for.

Warm Grays.

But there are several tones of gray which are to be classed as warm. Generally the warm tones are made by the admixture of a certain amount of yellow. Add a little green and you get sage. Or a very little red gives a pinkish gray, which is a pleasing background. Still,

at its warmest, gray is hardly the tone for a north room, unless it is to be used for a studio or some similar purpose which subordinates all merely esthetic considerations. An exception might also be made for merely summer rooms, or those in warm climates in which even the northern light is more or less suffused with sunshine. Then too there is the room which is a background and nothing more. I recall a northern room with white woodwork and cold gray walls, chosen specially for the setting out of some very beautiful old red curtains of damask and of many warm toned pictures. The gray wall merely accentuated the warm tones.

Three Rooms in a Line.

As in the case of the apartment considered last month, we will take for granted dining room, parlor and bedroom, all in a line and opening into one another. Instead of having the coloring of each room tone into the others, they shall be alike only in one point, that of the wall for which we will choose a warm gray cartridge paper of the tone best described as putty color.

This sort of a gray goes well with either fumed oak or mahogany woodwork, and is an admirable background for bright colors. An illustration of this is the frequent use of it as a ground for fine French brocades and tapestries, and for the effective printed linens made in England. With this gray wall the ceiling should be gray, a tone just off white, warmed with the merest suspicion of yellow. In the dining room, it should be carried down on the side wall to meet a plate rail, or at least a heavy moulding. The pictures in a dining room should never be numerous and the dropped ceiling furnishes the walls, even if a plate



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Decoration and Furnishing—Continued

rail is not used. The writer's personal feeling is that a plate rail is advisable only in a room with very much broken walls or in one which is specially built and furnished for a collection of china. The succession of small plates, often of inconspicuous design, at a considerable height above the eye line is neither interesting nor harmonious. Better have a group of really good specimens on some section of the wall, where they can be examined with ease.

Arabian Net Curtains.

With gray walls, use curtains of Arabian net, next the pane, finishing them with a two-inch hem at sides and bottom, providing them with simple cord and tassels, so they can be looped back at will. Nothing is so undesirable in an apartment as elaborate arrangements of curtains. One must be screened from intrusive neighbors, but let the screening be as simple as possible. If another set of curtains is desired let them be long ones of some thick material, hanging straight from a pole to the floor and pushed far back at either side of the window. In our gray dining room we might use for the purpose Old-Style moreen, which comes in the soft gray of old damask, and has the merit of being very reasonable in price, seventy-five cents a yard, double width. As it is rather stiff, the lower hem should be weighted.

The Floor.

As we have said before, the ideal treatment for the floor of a small dining room is to leave it bare, giving the stained floor as high a polish as possible; if you must have any covering at all, lay down two or three small Oriental rugs. In choosing them avoid those of strong tones of color. They seldom fade harmoniously and the trail of aniline dye-stuff is over the modern Oriental rug.

The Furnishings.

The choice of furniture should be governed by the woodwork. If the finish is golden oak, mahogany is out of the question. Moreover, most mahogany furniture is too large for apartment rooms. Of the various woods on the market, fumed oak is probably the most satisfactory. For the very tiny dining room, one can get a circular table with three or

four chairs so shaped that they can be slipped under the table, projecting only the width of the thickness of their backs. And for a small dining room, a large buffet is preferable to a sideboard.

Whether the furniture be oak or mahogany, covers for the sideboard, or serving table, and a centrepiece for the dining table when not in use effectively made of heavy gray crash or homespun linen, more or less elaborately embroidered in heavy silk or mercerized cotton. If the furniture is mahogany, this embroidery is effective in orange browns with a touch here and there of gray blue. With oak, gray green is the better choice. Covers of this sort seem better adapted to a room constantly on view than starched white linen, besides keeping clean much longer. Complete the room with two or three brown toned photographs, one or two bits of copper to catch the light, and for the rest depend on your china.

The Combination of Green and Gray.

The decorator has always admitted to being a heretic on the subject of green as a general decorative panacea, nevertheless in the parlor, keeping to the gray walls, she would lay a plain rug of low toned green, a grayish olive if possible. From choice, she would have Louis Seize furniture with grayish white painted frames and cane backs, the seats covered with a green and white striped fabric, what the French call *toile*.

Failing this she would acquire an old parlor suit of French design, the sort of thing which, in black haircloth, was common enough twenty-five years ago, have it enameled and upholstered with the same striped fabric. One large armchair she would have, overstuffed and covered with silvery green linen velour, or cotton velvet. A tabouret and a couple of small tables should also be enameled, and for the tables and as a scarf for the mantel she would use soft green brocaded silk, edged with a narrow fringe. One of the tables she would devote to bits of silver, the tabouret should hold a fern in a green jar, and the mantel should boast a pair of silver or plated candlesticks and a porcelain clock. On the walls she would hang at least one mirror in a white frame, delicate engravings or etchings in the simplest of narrow black frames, and



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MAX L. KEITH, Publisher

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Minneapolis, Minnesota

Decoration and Furnishing—Continued

little groups of powdered ladies in oval silvered frames.

Nosegay Borders.

Since the dining room is soberly dignified, the parlor dainty, the third room shall be gay, and we will begin by choosing a flowered paper border, something quaint and old-timey. As borders are made now, we shall be likely to find what we want as the stripe of paper by the roll. The ceiling shall drop only a little, say nine inches, to the gray side wall, and we will carry the border around the door frames, the window frames and just above the surbase. This is a revival of an old fashion.

For the furniture we will choose rattan or wicker, painting it gray, a trifle darker than the wall. Or if the woodwork is dark, use the gray brown of fumed oak. Then make everything bright with a linen taffeta or a printed linen, choosing one with a grayish ground and a pattern of brightly colored flowers. Use this for straight curtains hanging from a pleated valance, for loose cushions, for a table cover and to cover a high four-fold screen. If the room must be used as a sleeping room, a folding iron cot, one of the sort which doubles

up in the centre, can hide decorously behind the screen. If it is only an additional sitting room the screen is a charming bit of furniture, standing across a corner as a background for a big fern, or a tea table. But remember that to conceal anything effectually a screen must be four-fold. The three-fold screen may protect from a draught or temper the light but it does not conceal.

The floor may have a square of gray terry, securely fastened down with rug pins, or it may be partially covered by a white or gray goatskin rug. Unless one is unhappy without pictures the walls had best be left bare, except for a mirror or two.

Making the Furniture Help.

A good deal can be done by a discreet disposition of the furniture. Do not let a large piece of furniture, such as a couch or a piano, follow the long lines of the room. Stand the couch at an angle to the fireplace, with a screen behind it. Let the upright piano turn its back to the company across a corner. As far as possible, make two centers of interest in the room.

Another help is to use two medium sized rugs, rather than one large one, neither large enough to conceal the floor, but leaving a generous margin of polished boards.



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ANSWERS TO QUESTIONS

ON INTERIOR DECORATION

Editor's Note—The courtesies of our Correspondence Department are extended to all readers of Keith's Magazine. Inquiries pertaining to the decoration and furnishing of the home will be given the attention of an expert in that line.

Letters intended for answer in this column should be addressed to Decoration and Furnishing Department, and be accompanied by a diagram of floor plan.

Letters enclosing return postage will be answered by mail. Such replies as are of general interest will be published in these columns.

"H. C.—Please advise me about papering and painting our house. It is a two-story frame house, 29x31 feet, on the 'square' order, with many pretty windows. The first story has wide siding, the second story narrow, a hip-roof with dormer windows on sides and front opening into the attic. A wide porch in front, enclosed with the narrow siding, from ground to two feet above the floor. Faces south with no trees in the yard. Tell me how to have it painted? I have an idea it would be pretty with one story painted dark green and the other white, with white trimmings around the windows of the dark part. Another member thinks it should be brown below and white above. If painted in two colors would it look better to have the dark color below or above, or would you advise us to have it all one color, white for instance?"

"Reception hall is on the southwest corner and is about 11x11 feet; living room is on the southeast and is 13½x16 1-6 feet. There is a beam and pillars between this room and the hall. Back of the living room is the dining room, with double sliding doors between. It is 12x14¼ feet and has windows on the east and north sides. The rooms are nine feet high, the floors and woodwork oak, all well lighted; even the hall contains several windows. Please tell me how to have them papered."

Ans. H. C.—It is advised to use one color for the entire body of house. A deep ivory is suggested with trim the same, green roof and green window shades.

The rooms being small and all connected, it is advised to use green tones in the living room, a mixed pepper containing green, soft reds and light browns in the hall and golden browns and creams in the dining room.

A. H. L. My dining room furniture is toona mahogany and I want a color scheme to harmonize with it. Rugs and standing wood can be anything you say. Living room in close connection by large opening.

The rooms are well lighted, though facing north and of course the living room must tone in well with the dining room.

Ans. A. H. L. As to the information desired by you, would say that toona mahogany in the natural finish is a difficult proposition, as nowadays furniture, wall coverings, etc., are made to harmonize with the stained wood. In your case, you are prevented from giving the furniture a setting of blue or green, which make good contrasting treatments for it, by the northeast facing, as the effect would be too cold. Accordant tones must be used in these rooms and this treatment, if properly carried out, would give a very artistic result.

Cherry woodwork finished natural, would be most in harmony for the standing wood, with birch floors. There are a few things in rugs and wall paper that would carry out these rooms in accordant tones admirably. There is a paper in the softest of creamy terra cotta tones, with a fine design in the darker tone on the lighter ground, at 75 cents a roll for the living room and there is a Wilton rug matching this paper perfectly in a 9x12 size for \$40.00. The dining room wall for 6 feet up could be tinted plain, to match the living room paper, with a deep, pinkish cream above the plate rail and a frieze decoration of fall leaves in reddish browns, light greens and soft dull reds, at the top. The rug here could be either the same as living room or a mixture of soft dull greens and terra cottas.

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Answers to Questions—Continued

"J. W. S.—I am building a new home in Muskogee, Okla., and I want to ask about wall paper and draperies. The house fronts west and has a large west porch; rooms rather small and the ceilings are 10-foot ones. The entire lower floor has hardwood floors, and the woodwork is weathered oak. The front hall is 13x16 feet and will be used as a living room. It has glass doors in west end, and two large south windows, one of them on the stair landing. Mission fireplace and the furniture is Craftsman. The rugs are orientals, two shades of tan, soft green and some red. What shall I use for curtains and what for wall decorations? Opening out from hall on north through a columned opening is a music room furnished in mahogany. It has large west and north windows—oriental rug in shades of tan with some yellow in it. Opening from this room is the library. It has oriental rug, prevailing shade old rose. Only one window, a large north one, in this room. Furniture, Craftsman, with two pieces of green wicker. Will you suggest curtains for these two rooms and colors for wall paper? Also portieres, which I wish to be heavy enough to insure privacy when drawn. Opening out from the hall at east end is the dining room. It is furnished in early English, very massive and handsome. Has large east window and twin windows on south forming an alcove. I have a heavy velvet brussels rug, light tan background with small floral design in red, green and brown in subdued colors. Would you wainscot the walls and use plate rail? I have a large china case and many beautiful plates and steins. What would you suggest for walls, and for window curtains? Should I use portieres at folding doors between dining room and hall? Dining room, music hall, library and hall are to be heated by grates. What would you advise using for buffet cover and dining table when latter is not in use? Do you like stenciled decorations?"

Ans., J. W. S.—Taking up the lower floor first in general,—it is advised to carry a rather uniform treatment of wall tones through the entire floor both on account of their being thrown together by the wide openings and because of the woodwork. The only difficulty is with

the mahogany furniture of the music room, which should have had a happier setting than weathered oak. The room can be given a most pleasing wall treatment in sympathy with its character and the furniture. The tones of the rug will help, unless the yellow mentioned is prominent; we will hope it is the yellowish cream of the orientals. The wall paper suggested for this room is the softest of pale ecru backgrounds quite well covered with a design soft of garlands, enclosing a small lute, all in oyster white. There is no color. It is proposed to use an oyster white ceiling tint and draperies and furniture coverings of soft, rose and ivory. This paper is just being used upon a music room here in the city with charming effect. It does not clash with the wood finish; it tones in with the rug and is a lovely setting for the mahogany. But the accessories must be carefully chosen. A plain Eltonbury paper in the library, back in a putty color, will be a good background for pictures and books, also for the warm rose shades of the rug carried into the other furnishings. Velour portieres in the deep, plain rose will harmonize with both rooms and hang heavily.

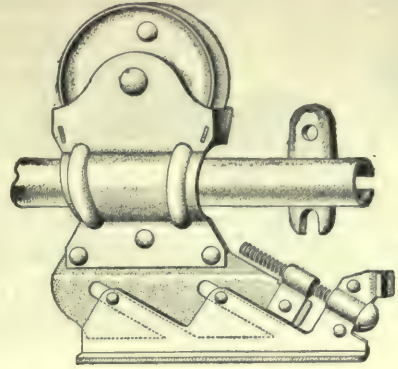
There is a fine paper in deep putty grey having a rough textile surface and carrying a conventional design in a darker tone which would be admirable in the hall with the oriental rugs and weathered oak. A dining room paper has been described before in these columns, showing a frieze decoration in dull blues and greens on a tan ground which meets perpendicular vine on each edge of the paper and there is also a low dado 16 inches high above the baseboard of the same foliage with soft old red poppies intermingled. With your ten-foot ceilings this could be used to advantage. Or, you could have a dull green lower hall and a plate rail about 6 feet from floor, above it a plain soft ecru wall with foliage frieze of green, brown, etc., leaves. The plain space above the plate rail would be a fine background for your china.

In regard to curtains, etc., they are difficult to suggest without samples.

In regard to stencil decorations, it is seldom they are well enough done to be artistic.



THE MAN WHO DID NOT BUILD A HOUSE FOR
HIS WIFE



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You'll surely come to it later.

The Allith alone gives you absolute freedom from all sliding door annoyances. They are a step in advance of all others. No other parlor door hanger runs so smoothly and so noiselessly. The wheel is brass bushed and steel cased with hard fibre tread. The bearing is anti-friction. The hanger and plate for attaching to the door are supplied in either malleable iron or wrought steel. The adjusting screw has an extra long bearing in frame of hanger which makes a very strong and positive adjustment. The adjusting screw *cannot* work loose and is easily regulated without removing door casing.

The round steel track with tightly fitting inside supports is of the best possible construction. The sagging or warping of walls, floors, or doors does not in any way affect the perfect working of this hanger.

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The Art of Resting.

FATIGUE is incidental to all healthy exertion. It is nature's danger signal, advising that the point of pernicious activity has been reached. In fact, the absence of physical fatigue is sometimes a dangerous symptom, an indication that the individual is living on his nerves. People of acutely nervous temperament sometimes get to a point where they seem to be wound up, to be able to go on indefinitely without muscular weariness, a convenient condition in times of stress, but hardly desirable as a permanent state.

But fatigue implies the necessity of rest and very few people understand the art of resting. Babies and cats do and they are a convenient object lesson. Lift the paw of a sleeping cat and note the absolute relaxation of the muscles, the entire absence of tension. Just in proportion as the adult can acquire the faculty of physical relaxation is he able to rest effectively. The maintenance of tension is fatal to rest.

Mental and Physical Tension.

Tension to most women suggests the sewing machine, the too tightly drawn upper thread snapping with the motion of the needle bar. But muscles and nerves do not snap, they only stretch painfully. The weary muscle responds to the insistent will, the exhausted brain cell does its share of the work, but sooner or later the retribution comes, a calamity by no means to be remedied by the turn of a screw.

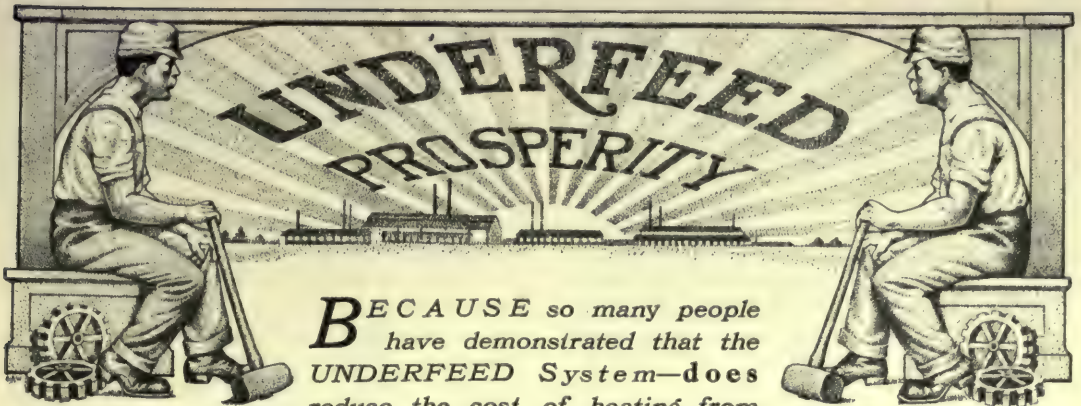
This condition of tension is one of the incidents of the stress of our modern life, the life in which for many of us, the demands are so much more than we can meet. To change the condition is be-

yond the power of any one person. The only thing to do is to cultivate the habit of moving along the line of least resistance and when motion ceases, to rest, thoroughly and completely.

Rest is the cessation of work, it is also the cessation of thought about work. You do not rest effectually when your muscles are quiet and your brain cells in a state of agitation. Only as all activity ceases are you in the condition to let the necessary work of repair go on. Every thought, every restless motion is so much hindrance to the beneficent work. Only as you hold both in check do you attain perfect relaxation. And this holding in check is not an action but a state, the dismissal of all disturbing thoughts, the emptying of one's mind, so to speak. Entire cessation of thought is a matter of training but one can let one's mind wander at will, following out a chance suggestion, so long as it has nothing to do with one's ordinary affairs. Ten, twenty minutes of such pleasant wandering, and one goes back to the regular work of the hour refreshed.

The conditions of physical rest are much the same. The tension muscles must be relaxed as far as possible, and perfect quiet be maintained. It is a good thing to cultivate the habit of dropping down in absolute idleness for ten minutes, when a longer rest is not possible, repeating the process often. A couch in the dining room is a great help. If one must go up stairs for a rest one keeps on. Next best is a steamer chair in the kitchen.

A third point is to cultivate restful ways of working. Do the disagreeable, drudging things in the morning, when you feel fresh. Do not have long stretches of monotonous taskwork



BECAUSE so many people have demonstrated that the **UNDERFEED** System—does reduce the cost of heating from 50% to 66 $\frac{2}{3}$ %, the words **DULL TIMES** and **IDLE MOMENTS** have been blue pencilled from **UNDERFEED** records. The so-called panic year proved an Underfeed record breaker. This season we have put up a still higher figure. The reason? A child can understand. The

Peck-Williamson Underfeed

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WARM AIR Furnaces - STEAM AND HOT WATER Boilers

Save $\frac{1}{2}$ to $\frac{2}{3}$ of Coal Bills

You can easily figure it out. CHEAPEST slack, the sort which would smother an ordinary furnace or boiler fire, yields in the **UNDERFEED** as much clean, even heat as the **HIGHEST** priced coal. The difference in cost is **YOURS**. This saving alone is great enough to soon pay for the **UNDERFEED**. This isn't all. Coal is fed from below and with all fire on top, smoke and gases *wasted* in other furnaces and boilers,

This illustration shows the Underfeed Boiler.

must pass thru the flames and are consumed. This is an aid to better health and means *additional* heat. Ashes are few and are removed by shaking the grate bar as in ordinary heaters and boilers.

Illustration shows furnace without casing, cut away to show how coal is forced up under fire, which burns on top.

George B. Catlin, of the *Detroit Evening News*, has had an Underfeed over four years. He's enthusiastic about it. He tells how much money he saves each winter, and writes:

"A very ordinary mathematician can figure the difference between 15 tons of slack at \$2 per ton put in and 22 tons of coal at prices ranging from \$7.25 to \$7.50 put in. The difference in a single year more than compensated for the higher cost of the furnace and we have heat to let out of the windows."

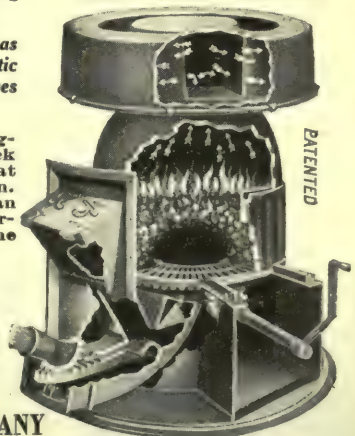
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Household Economics—Continued

Work at one thing for an hour and then change off. Use all the physical aids you can, labor saving machines, chemicals and the like. Try, even though it goes against the grain, to sit down at many of your tasks, ironing, preparing vegetables, some parts of cooking. And, harder still, learn to slight some things. Discriminate between essentials and non-essentials, between the dirt which is pernicious and that which is merely unsightly. And, above all, do not feel that you must do everything in the way your mother did it before you. Work out a process for yourself and simplify, simplify, simplify.

The Habit of Grumbling.

People, who have had an experience with convents, know that it is the rule to maintain absolute silence during a good part of the day. This rule applies to all the working hours, and whoever first framed it was certainly wise. For it renders the practice of grumbling almost impossible. If a grievance arising at ten o'clock in the morning must be saved up for comment at two o'clock recreation, the chances are it has been forgotten by that time and never sees the light, which is so much clear gain.

Now if those of us who live in families could only practice this sort of restraint, what a gain in comfort and harmony. For time cures all ills, even the little discomforts of life. "Don't mention it" is such a good rule for the minor worries of life. And the things that must be mentioned, for correction, why not leave them till the time when the same circumstances recur? We do not nearly realize the misery caused in families, particularly to sensitive children, by the habit of endless

complaint. It lies at the root of fully half the unhappiness of domestic life. Very often the matter of complaint might be remedied by some trifling readjustment, some little change immaterial to everyone, but it is so much easier to find refuge in censure.

But if the fault finding habit is distressing to others, it reacts fatally upon one's self. A fault finder is never popular even in the heyday of youth, and is surely treading the downward path to a querulous old age. It takes other people to realize our defects, we all idealize ourselves. It is very wholesome sort of discipline once in a while to take a candid survey of our actions and their tendencies.

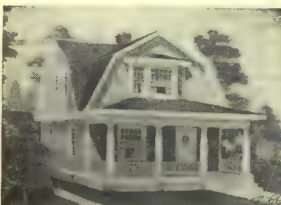
Rissoles from Cold Meat.

When you make pastry, in cold weather, set aside a lump of dough and keep it in the refrigerator until you have some cold roast beef or lamb, or better still poultry. It will keep perfectly for several days.

Chop the cold meat fine, season it highly and moisten it with gravy. If you have no gravy, improvise some with a couple of bouillon capsules and a little kitchen bouquet. Roll the pastry out very thin and cut it into squares. On each square lay a tablespoonful of the chopped meat folding the pastry over like a turnover. Make a kettle of deep fat very hot, put the rissoles in a frying basket and drop it into the fat. Fry until the rissoles are brown and remove them to a hot platter. If deep fat is not attainable, you may bake them in a hot oven till they are nicely browned. They are more appetizing than hash, more substantial than croquettes.

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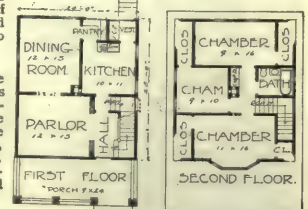
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cottages, country homes, farm homes, city homes, duplex houses, frame houses, brick and cement houses, etc., and profusely illustrated articles on entrances, windows, fireplaces, stairways, kitchen and pantry arrangements, articles on letting contracts, the practical side of home building, etc. Every left-hand page is a full page of illustrations. The book is seven inches by ten inches, printed on heavy enameled paper, cover stamped in gold. "Worth many times its price," writes one. "The handsomest thing in its line that we have ever seen," writes another. ALL books sent on approval with privilege of return and money back.

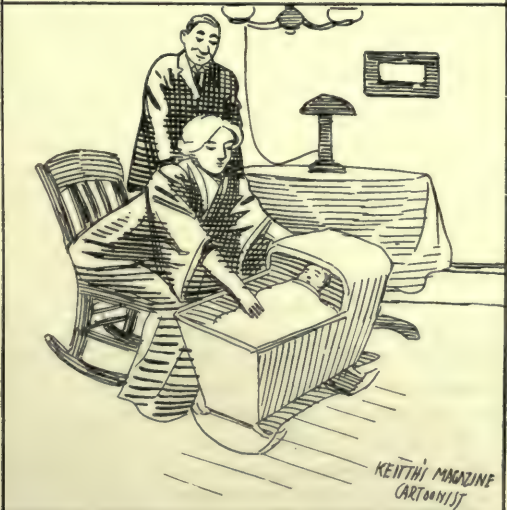
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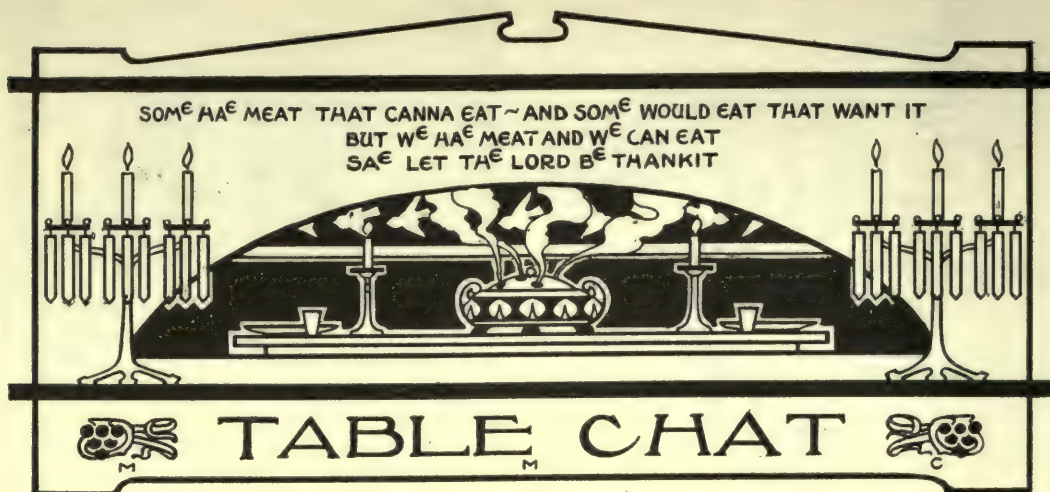


TABLE Cloths for Ceremonious Occasions.

The newest table cloths for festival occasions have some sort of decoration in the centre, which dispenses with the use of an embroidered centerpiece.

Some of these table cloths are of the heaviest quality of double damask, circular, two yards or two-and-a-half in diameter, and edged with Cluny lace, about three inches wide, put on without fullness. Then a medallion of the lace, perhaps eighteen inches across, is inserted in the centre, the damask cut away beneath it. Midway between the medallion and the edge of the table, at the place occupied by the hostess, her monogram or initials are worked with more or less elaboration.

Sometimes instead of a medallion of the lace, a square or circle is outlined with wide insertion, edged on either side with lines of large dots heavily padded and embroidered in satin stitch, a similar line heading the lace edge. When a square is formed, the strips of insertion outlining it may cross and extend to the edges of the cloth.

Less expensive, but quite as elegant, is a cloth with a scalloped edge, headed by an elaborate pattern in eyelet embroidery, the same pattern outlining the central circle. The work is simple, but very effective, and exceedingly durable. The edge of the cloth beyond the scallops should be turned down on the wrong side in a narrow hem. Scallops so treated will never fray.

The very newest thing, fresh from Paris, is a tablecloth at whose centre four nine-inch squares are marked off. Two of these are filled with white embroidery, in an intricate conventional design. The alternating squares are cut out and the space filled in with hand made filet lace, or some one of the many braid laces.

The same idea is carried out in cut work. A square design is stamped in the centre of the plain damask cloth, the edges buttonholed, the brides worked and the background of the design cut out. It goes without saying that the lines inclosing the design should be straight. The edge of the cloth may be finished with a cut work border, or simply scalloped.

Italian Hand Made Linens.

Beautiful tablecloths and napkins can be fashioned from the hand woven Italian linens, which are now imported in considerable variety. The fabric is so exquisite that ornament, other than hemstitching seems almost superfluous. The most appropriate decoration is the combination of open squares or circles and buttonholed bars known as reticella work. The Decorative Art societies supply patterns for this work, which is more a matter of the right sort of thread and abundant patience than of special skill, the stitches being of the simplest.

Whether it really pays to embroider table linen is a matter of individual judgment. Elaborately embroidered and lace-trimmed linen is only appropriate when the other table appointments are in keep-

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PATTERN

Durability and Beauty

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It affords the longest service
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oak or birch, ma-
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**"FROM FACTORY
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Price includes our
"Queen" Coal
Grate with best
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\$2.50 extra. Man-
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**"REPUTATION AND
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Furnished with round or square columns,
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Dealers' price not less than \$40.

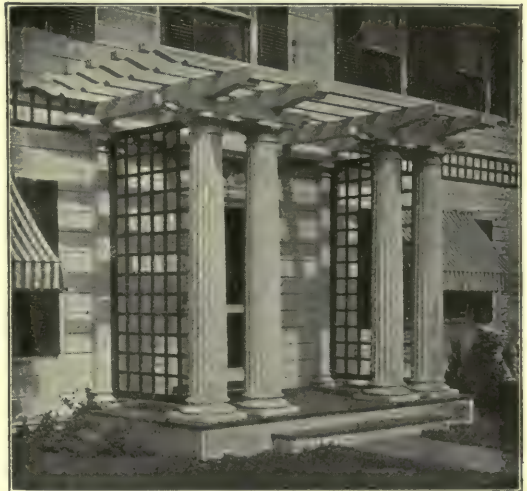
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KOLL'S PATENT Lock-Joint Columns

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Interior use are made exclusively by
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They are for shingles and all other exterior wood
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Send for samples of Stained Wood and Circulars. Free

Samuel Cabot, Inc., Sole Manufacturers

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Agents at all central points.



Woodruff Leeming, Architect, New York

Table Chat—Continued

ing. For most of us a modest line of hemstitching is as much as our belongings can live up to. But other things being equal, there is an element of permanence about such work which should commend it to anyone who really cares for needle craft. One would rather work on an heirloom than put endless stitches into a sofa cushion which will be hopelessly shabby in a year's time.

Brass Tea Services.

Brass tea equipages are gaining in favor. They are finished with lacquer so that they will not tarnish, and are most graceful in shape. The set, sold for about \$15.00, sometimes less, consists of a tray, a teapot, a tea caddy, sugar bowl and cream pitcher. The brass is most effective with bright colored china and is proof against the accidents which befall china.

Then there are copper tea services, consisting of pot, bowl, pitcher and tray, of a curious conical shape, with ebony handles and a repoussée decoration. The set costs \$12.00, and bears the stamp of the craftsman shops.

To accompany it, or to be used with an entire porcelain service, is a copper tea kettle and stand, of the same design. The lamp is of generous size, the kettle lined with tin and provided with a wicker handle.

Separate copper trays, twelve inches by sixteen, either oval or square, cost \$4.00. At about the same price are mahogany trays, while cheaper ones are of green oak, with wicker handles, the bottom of the tray being of glass laid over cretonne of an effective design of red tulips and green leaves.

Wedgewood Basket Ware.

This ware is a reproduction of one of the specialties of the Wedgewood factories in the Golden Age of English pottery. The ware is glazed and cream-colored, and made in a variety of pieces, plates, ice cream dishes, candlesticks, fruit dishes, ferneries and bon bon dishes. The two latter are commended to people in search of individual favors for diners. Tiny bon bon baskets are only twenty cents, small ferneries thirty five. A fair sized fruit dish costs a dollar. Plates of various sizes have plain centers and an edge of basket work.

Breakfast Sets.

The leading shops now make a specialty of breakfast sets. A breakfast set usually contains fifty-five pieces, and most of them are in some of the various sorts of blue and white ware, blue willow, Copenhagen, Delft, or Spode Tower. The last named is specially pretty and a set costs \$10.80. By selecting the pieces required from open stock a smaller service, better adapted to the needs of the average family, can be made up, at less cost.

A Use for Cheese Shells.

After all the contents have been scooped from an Edam or pineapple cheese, save the shell and use it for serving creamed celery, macaroni with tomato, or cheese and tomato. The effect is very pretty and the shell will add a little flavor to the contents.

A Hubbard squash is prettily served in the shell. Bake the squash in the usual manner, cutting it in half laterally. When it is tender, scoop it out, butter and season the pulp and pack it in half of the shell. It will probably be necessary to cut off the point at the end of the squash to make it stand evenly. Set it on a platter with a folded napkin wrapped around it. If squash is merely salted and buttered, not peppered, any which remains after a meal can be utilized for a pie or a squash custard.

China Coffee Services.

While the fancy is for metal tea services, there is a fad for coffee services in china. This is a German fashion, and most of the sets to be had are in one or other of the German wares. Sets always include a large porcelain tray. It must be remembered that a china coffee pot is only adapted to the percolating process and should not be set upon the fire. These porcelain coffee services range in price from \$4.50 to \$16.00. A service can often be made up at a smaller price from some of the numerous open stock patterns. A service of this sort is effective on a side table in the dining room.

Preserving Lemon Rinds.

After squeezing lemons do not throw away the peels. Cut them into small pieces, after removing the seeds and cook them into a preserve with their weight of sugar and a little water.



An Edwards Metal Spanish Tile Roof

Costs No More Than a Good Tin Roof

Architectural and ornamental in appearance and the most "Beautiful Roof in the World." Its extreme lightness (about one-eighth that of slate), durability and the fact that it is fire-proof, rain-proof and storm-proof, commend it to those desiring something out of the ordinary in roofing.

Send us the dimensions of your building and let us name you prices.

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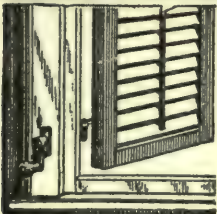
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"THE SHEET METAL FOLKS"

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The only practical device to open and close the Shutters without raising windows or disturbing screens.

Can be applied to old or new houses, whether brick, stone or frame, and will hold the blind firm in any position.

Perfectly burglar proof.

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Selected Red Birch
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**Insure Comfort
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See that Your Doors are hung with

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No creaking of doors

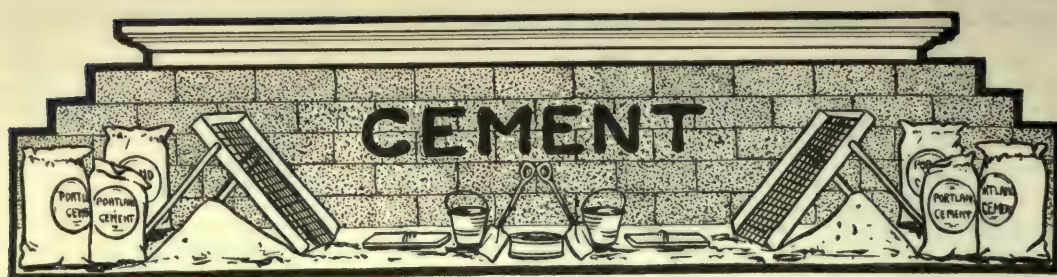
No need of oiling

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Ancient Cement Construction.

ONE of the most important discoveries which has been made in many years is the recent unearthing by Prof. Ramon Mena, of the ancient city of Otumba, about five miles from the present city of Otumba, Mexico.

Two houses were unearthed, the first of which is stone, with the stone walls, or what is left of them, about six feet in height. The other house, probably the residence of some priest of very high rank, is of cement; floors of cement and walls of cement, the latter being frescoed in red and blue—the whole being in a perfect state of preservation. This house contains three rooms and cellar. The cellar has several rooms, all with cement floors.

Near this house was discovered a "teocali," or temple, with the platform and walls still preserved. One wall was something over two meters thick, which denotes the strength with which the Texcocans and Aztecs of a civilization which antedates any other in America by several generations used to build their public edifices. The bases, upon which evidently reposed four columns, were also discovered in a good state of preservation on the teocali.

Concrete Jacketed Timber Piles.

During the past eight or ten years a good many examples of concrete-sheathed timber pile construction have been built by the State Harbor Commissioners of San Francisco, the object being to obviate the rapid destruction of unprotected timber by the teredo, which is very active in the Bay of San Francisco. Ordinary wooden piles, driven to secure the requisite bearing, were provided with an outer casing of concrete formed in cylindrical moulds placed over the piles after driving. From a recent

article by Mr. John G. Little, in the "Engineering News," it appears that the present condition of piers built on this type of substructure is far from satisfactory, and that in consequence reinforced concrete cylinder piers are being adopted in the important scheme of harbor improvements now in progress.

Record Breaking Concrete Construction.

Within just 49 days from the time of commencing work on the concreting of the full nine floors of the St. Anthony Hotel Annex, at San Antonio, Texas, the work was completed by the Reinforced Concrete Construction Co. Over 5,000 yards of concrete work was done. H. A. Banks, superintendent of the construction company, says: "I am confident we have broken all records for the South. We started work on the first floor August 25. The roof was finished October 13. By the system used, neither shovel nor wheel-barrow have been touched to the concrete until it was practically in place. It was "slipped" from the mixer into a bucket and hoisted 30 feet above the floor on which work was in progress and then sent down a chute and distributed by the force of gravity. The system is a new one, but I believe is the future concrete way. We used from 800 to 815 sacks of cement every eight hours."—Concrete Age.

A Mining Village of Concrete.

The industrial village of Mineville, N. Y., near Port Henry, is gradually being transformed from a collection of wooden shacks to one of imposing buildings of concrete. The village is near some rather extensive mines and is in the heart of what was once a great forest, but wood is now being supplanted for all other purposes.

It should be stated that one of the factors that led to this extensive use of concrete was the possession by the com-

Asbestos "Century" Shingles

"The Roof that Outlives the Building"

The house owner has to depend on your knowledge in choosing his roofing—and he is especially open to suggestions that affect his pocketbook.

Asbestos "Century" Shingles protect the house absolutely—are impervious to weather, proof against fire, free from accidental breakage. They are the most attractive roofing made. They cost no more to lay than any other roofing regarded as first-class, and nothing afterward for painting or repairs.

Can there be any doubt as to what roofing you shall recommend?

Asbestos "Century" Shingles are dense and elastic shingle-like sheets of asbestos fibre-cement. Made in three colors—Newport Gray (silver gray), Slate (blue Black), and Indian Red, in numerous shapes and several sizes. Ask your Roofer for new quotations. Write for Booklet "Reinforced 1910."

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Cement—Continued

pany of a very superior aggregate in the shape of the "tailings" or residue left after the separation of the ore. An immense heap of these tailings gives a seemingly inexhaustible supply of aggregate, and tests have proved that cement mixed with the run of tailings in the proportion of 1 to 5 produces a very superior concrete block without the addition of sand or gravel.

The buildings of concrete comprise a power station with a chimney, which is also of concrete, an office building which is approached by a series of concrete steps, a school house, fifty small houses for workmen, several four-family tenement houses for foreign labor, and a number of more imposing houses for heads of departments, a lock-up and a pay-master's office. In fact at the present time there are but a few structures in the town which are built of anything but concrete.—Concrete Age.

A Strong Endorsement of Concrete Buildings.

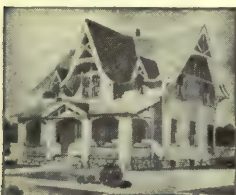
The great Bush Terminal factories stand as notable examples of modern concrete construction, this being the consensus of opinion of eminent engineers as well as leading manufacturers. After having had practical experience with concrete as the leading structural material, the company makes the following announcement:

"Over half a million dollars will be expended in the near future by the Bush Terminal Company in the erection of two more of its model loft buildings, three of which are now standing at Thirty-fifth, Thirty-sixth and Thirty-seventh Streets, respectively, between Second and Third Avenues, South Brooklyn. Plans for the new structures have just been completed by Architect William Higginson and are now on file in the Building Department. The new factories will stand north of Thirty-ninth Street

and, like their predecessors, will be six stories high, 600 feet by 75 feet, and each containing about 300,000 square feet of floor space. The cost is figured at approximately \$300,000 each, and if present plans are carried out there will ultimately be twenty of these buildings parallel with the great South Brooklyn waterfront and calculated to contribute a generous share to the difficult task of solving the freight problem of the port of New York. The buildings are to be of reinforced concrete and rank in insurance tables as absolutely fireproof and among the least expensive risks issued. The particular function for which these loft buildings are designed is to enable wholesalers and manufacturers to follow the modern commercial policy of having plants located along the tide-water line. They represent the materialization of the new idea that the wareroom or factory must be brought to the railroad car in order to serve its purpose rightly, and the fact that yards of the ten freight-carrying roads reaching New York City, as well as the landing places of 17 steamship lines are located in this section of South Brooklyn, has converted it into an industrial community, the growth of which will depend only upon the number of loft buildings which the Bush Terminal Company will construct."

A Dark Gray Cement Walk.

A Bloomington, Illinois, citizen has built a cement sidewalk which is said to be a great improvement over the ordinary white cement walk. He uses enough lamp black mixed with the cement to make it a dark color and holds that such walks are much easier on the eyes of people using them than the white cement walks, as well as being very handsome. The dark gray walk is much admired in Bloomington and doubtless on a sunny day will be grateful to weak eyes.



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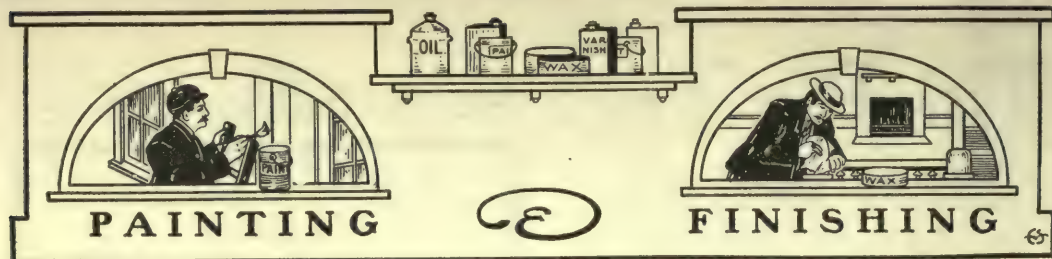
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Keith's, Jan. '10.



Proper Treatment of Floors.

The proper treatment of floors, says Building Management, is today a much debated question, and the dissatisfaction so often expressed on this subject is due to the lack of proper information. When finish counts for so much on a floor, it is strange, indeed, that so little thought is given to the material and methods to be employed.

Generally, when a new floor is to be put down, great care is taken in the selection of the wood and in laying it; but when the question of finishing arises, the qualifications of the mechanic, and the material to be used, are given but little attention. The result often is disappointment and greatly increased cost, for ere long the old finish must be removed and replaced.

On the other hand, the proper method, if followed from the first, would produce not only a beautiful finish, but one that would be a pleasure for years to come. These remarks are applicable to the refinishing of old floors also, and in view of the importance of the subject, building managers should acquaint themselves thoroughly with the various methods of finishing floors and the results obtained by the use of the various floor finishes.

Too much care cannot be given to the preparation of a hardwood floor, as it has been proven beyond question that ninety-nine of every hundred complaints arise from carelessness in this most important particular.

In a new building the floor, of course, is the very last thing to be finished, and that, which should have the greatest care and ample time for completion, is hurried most of all.

What is the result? No attention having been given to the directions of the manufacturer, to the state of the atmosphere when the finish was applied, or, in fact, to any of the several conditions at-

tending a proper execution of the work, the tenant moves in and in a few weeks discovers signs of failure in the finish of his beautiful floors. The blame for this condition is at once laid upon the material used, and the manufacturer is called on to state why he sold such inferior goods.

Some of the blunders often made in cleaning new or unfinished floors may be avoided if the following directions are followed:

Wash as little as possible; use sandpaper, where it will answer. When the floor has been well protected by covering, it will usually be found that nothing is necessary, except a good sweeping, before applying the first coat; but in case the floor is soiled, and it is necessary to wash it, use clear water if it will remove the dirt; but if obliged to use something to soften the dirt, put in about a gill of household ammonia to the pail of water and, after washing wipe the floor dry and wash again with clear water, in order to free the wood of all ammonia that may remain. Use as little ammonia as possible to obtain the desired end, as an excessive amount darkens the wood. A better wash is made with a pint of alcohol to a pail of water, and it is not detrimental to the varnish.

Washing the floor with turpentine will also give good and safe results. Sandpaper will remove many spots that may seem to need washing. When a stain comes from paint, sandpaper and turpentine will generally remove it. Use alcohol to remove grease spots.

Cracking of Painted Glass.

Will a sign painted across a glass window cause the glass to break? The question is often asked and is variously answered. Opinions appear to differ.

Some sign painters declare that it never happens—at least that it never has with their work. Others believe it may happen, although they have not seen in-



Look for This at Painting Time

Spring painting time will soon be here and thousands of dwelling houses, churches, factories and other buildings will need one or more coats of our pure white lead and linseed oil, for livening them up or to save them from decay.

We have a special word for those who have used our white lead before and could not be induced to use anything else in their painting.

It is about our **new steel keg**. This is a new package this year and takes the place of the long familiar oak keg. The white lead is the important thing, but knowing the package insures your getting the genuine material. Please look at the illustrations above—the new kegs are of steel, gun metal finish, and come in two shapes as pictured. The one hundred pound size has straight sides; the smaller sizes taper towards the bottom.

Steel is the ideal material for packing white-lead-in-oil for paint purposes because, not being porous it does not absorb the oil, and the lead always stays moist. Look for the new steel keg, either at the store or on your premises when the painter starts to work, and, **very important**, see that the **Dutch Boy Painter** trade mark is on the side. That is **your guaranty** that you are getting pure white lead of our manufacture.

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Painting and Finishing—Continued

stances. Still others refer to cases, well authenticated, where cracking has closely followed painting.

The conflict of opinion must be due to the difference of experience, and partly to doubt as to whether a break was caused by the painting or by something else.

Breaking seems to happen most frequently where the window has a southern exposure, and where the background of the paint is black. It is well known that black paint so used will absorb more heat than the clear glass, and that the difference in temperature may easily be sufficient to crack the glass.

It is fair to conclude that sometimes the glass will crack when it is painted, other times it will not—depending chiefly on exposure, color of background and the quality of the glass itself. A safe rule for the painter is to give his patron warning that there is great danger and let the proprietor assume responsibility for all accidents.—Dutch Boy Painter.

Wall Paper Hints.

Owners of new homes, says Beautiful Homes, make many mistakes in the selection of wall paper, and while it is largely a matter of personal opinion, there are certain rules which must not be overlooked. Especially is this so of the new home where bare walls must be covered with their first coat of paper. A wall paper expert gives the following valuable hints:

Never use large figured papers on low-ceilinged rooms.

Plain color and self-toned stripes increase the apparent height of a room.

Do not use red or dark green paper in a dark room. These colors are inclined to absorb the light. Yellow, white or creamy tints are much more cheerful.

Light blue and pink paper look well in rooms that are flooded with sunlight, but they soon fade. This makes papering very expensive if we would have our walls look fresh at all times. When the paper cannot be renewed often, use more substantial colors in sunny rooms.

Where pictures are to be hung, select a plain background and never put a garish paper in a room that must be occupied by an invalid.

Many home-makers fall into the error

of purchasing expensive styles of paper far beyond their means. Fine grades of delicately tinted papers will keep one poor, because they must be renewed at regular intervals. One can often save money on wall paper by purchasing rolls of year-old patterns at a great reduction. If these are of conventional designs they always look well. Wall paper patterns change every year, and it frequently happens that old patterns are brought back into favor after the lapse of a season or two.

Deep borders and ornate friezes should be avoided in small rooms. The average home does not offer conditions which will do them justice. A common error is to purchase wall paper of a gaudy and novel type which will often spoil the appearance of the furniture.

There is a tendency at the present time in the finest homes to paper an entire floor in one color, and this, in some respects, is a good plan. It conveys an air of harmony and restfulness and that should be the sole idea in papering.

A great many people do not pay enough attention to the selection of wall paper. Time should be taken to select the best of six patterns sifted down from the contractor's possible twenty. The papering of the new home is a very important matter and should be given careful attention on the part of the whole family.

Cleaning Varnished Surfaces.

There has been considerable discussion on the subject of cleaning varnished surfaces and several ways more or less elaborate have been suggested and tried out; but from my experience and inquiry I have found that the simplest and best method is to use Ivory Soap and warm water, wipe perfectly dry and polish with chamois skin.

What Can be Done with Old Gold Frames.

Gold frames may be renewed and cleaned with a mixture of onion juice thinned with water. Take one onion and cut in half; squeeze with a lemon-squeezer and thin with water. Three ounces of water to a medium onion. Be careful not to use it too strong, for it may take off the gold. Rinse well with clean water and leave dry; then dry polish with a soft cloth.

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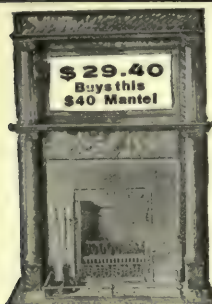
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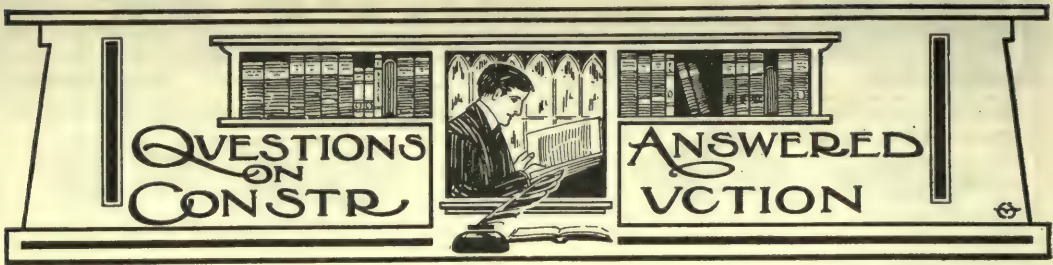
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Make Near-Marble.

Jas. B. C.—Gentlemen: I am curious to know something of the imitation marble which is being made in the lobby of the Rogers Hotel. It seems to be some kind of a composition but horsehair seems a strange thing to use in connection with such work. The marble is of a green color.

Ans. Jas. B. C.—Investigating the "marble," we find that Tulio Davia of Venice and Frank Karl of Chicago are employed in its making. The "marble" is to form the outer covering of the huge concrete pillars supporting the lobby ceiling.

The preparation is called scagliola, according to Signor Davia and is in imitation of "vert antique." One pillar has already been finished and bears all the veins and rough tracery of the true "vert antique."

The veins are made by dipping a network of horse hairs in a preparation and laying it on a sheet of linoleum. After the preparation has dried it is tinted at irregular intervals and the entire linoleum is wrapped about the concrete pillars.

Concrete Block Facing.

J. H.—Gentlemen: I wish to produce some cement blocks with a pure white face, and as I have only made the ordinary block until now, I am writing you for information. Kindly let me know what materials are used and in what proportions. This matter is important as it will enable me to compete for some very good work if I can make this class of blocks.

Ans. J. H.

Blocks may be faced with one-quarter or one-half inch surface, either pure white in color or any light effect desired, by the use of one part of good white Portland Cement, two or three or even four parts crushed white marble screenings, white

sand or other light aggregates, all passing an one-eighth inch mesh, graded in size to particles which will be retained on a No. 50 screen.

Mix thoroughly with water, plaster inside the forms and immediately fill in with good quality of Portland Cement in proportions as used in the manufacture of concrete blocks. After taking down the moulds, the surface should be kept wet for two or three days or several weeks if economy will permit. After the first week a very beautiful effect will be produced by washing off the surface with dilute muriatic acid, one part sulphuric acid, three parts water. Apply three coats with a brush one coat right after the other, wash off with clear water played on by a hose. A texture, sparkle and life is produced which rivals the natural stone.

Painting Cornice.

G. G. B.—There are nearly 200 feet of cornice on my house. The cornice is ceiled with pitchy hard pine ceiling. What will be the proper treatment of this lumber to insure the adherence of paint? Would it be a good plan to give this lumber a coat of shellac? I have used shingle stain for gables and roof and will use a pretty grey paint for the first story. What will be the proper treatment of the ceiling of the porch?

Ans. G. G. B.—Answering your request for treatment for the pitchy cornice of your house, would advise the use of a thin coat of grain alcohol shellac on the pitchy hard pine boards of the cornice. After this is dry, put on linseed oil paint. You want the very best material for this particular job that you can get or you are going to have constant trouble with it. For the porch ceiling, think that a light blue would look well, or you might varnish for a natural finish. Either way would be acceptable.

Answers to Questions on Construction—Continued**Cisterns.**

B. R. H.—Would like advice regarding best way to build a cistern in the cellar. Is there danger of dampness? If so, would a well fitting wooden lined lid help it? Would you consider six by six, five feet high about right size for ordinary sized family?

Ans. B. R. H.—As a subscriber, we are pleased to answer your inquiry. Ordinarily there is no danger of dampness. It would be preferable, however, to use a cast iron cover similar to one found on the ordinary business street sidewalk covering a coal manhole. 6x6x5 feet should be ample for a medium sized family.

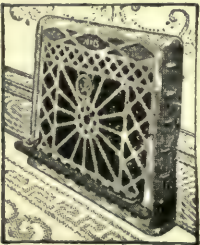
To Preserve Brick from Smoke Stains.

P. T. B.—Gentlemen: The building adjoining my store recently burned out and portions of my brickwork were badly smoked up. The face of the brick does not seem to be damaged other than this. I wish to put my building in first class shape and would like to know if there is any acid or preparation which can be

used for the purpose. The brick is a good red pressed quality and I would not like to paint it unless it is absolutely necessary.

Ans. P. T. B.

A new compound for cleaning smoke stains from brick fronts has recently made its appearance on the market. After a fire in a building the brick work is often badly discolored about the doors and windows with smoke and gases, and the removal of this during the work of reconstruction has always been a laborious task, usually accomplished by the use of sand and water and a wire brush. The new compound is composed of one gallon of soft soap, to which is added two pounds of powdered pumice, double oo or F, and one pint of liquid ammonia. First remove as much of the soot as possible with the stiff broom or fibre brush. Then apply the soap and ammonia mixture with an ordinary fibre brush, or common whitewash brush, and let it remain on for about 20 or 30 minutes, and the discoloration will disappear.



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IF one expects to get the best possible results even from a good furnace, he should co-operate with it. One important method of co-operating is by providing the air of the rooms that are to be heated with moisture. As it is humidity in summer that often causes us to swelter, so in winter it is often the arid condition of the room atmosphere that is responsible for our shivering, even when we are "sitting over the register." If air is allowed to become dry, it develops a tendency to cool. The hot air that a furnace pours into a room will make that room comfortable much more quickly if the air in the room is moist than it will if the air is dry. It follows, therefore, that to keep the air moist is to reduce the coal bill or to increase the heating possibilities of a given amount of coal. It is perfectly safe to assert that too much moisture cannot be provided. And it must be artificially provided, because the air in the winter ordinarily is very dry. As a rule, the colder the day, the more arid the air. When the people in the house are most likely to be suffering from cold, the air is most likely to be suffering from lack of moisture. This condition can be remedied.

Modern furnaces are provided with evaporators. There is a mistaken idea prevalent in many quarters that the evaporator is intended to contain water which will prevent the furnace "from burning out." The furnace, if it is a good one, requires no such preventive agent. The sole purpose of the evaporator is to humidify the atmosphere of the rooms that are to be heated. The water in the container evaporates rapidly when the furnace is heated, and the moisture is absorbed by the thirsty warm air. It is important that the evaporator should be large enough to contain considerable water and that it should be located so high on the furnace that it

will not remain cold. It seems logical that it should be as near the top as possible, because the first air that is heated in the hot air chamber has a tendency to rise and it is not benefited greatly by an evaporator that is fixed near the bottom of the furnace. But the most important thing to be remembered is that the evaporator, wherever it is located on the furnace, is put there for use and not for ornamental purposes. It should be "watered" regularly. To fill it daily is almost as important as to put coal on the fire.—Beautiful Homes.

Material for Service Pipes.

The quality of the work done by the plumber will depend very greatly upon the quality of the pipes which he uses. All service pipes should be of the best quality, or the work will be a failure from the beginning. Various kinds of material are used for service pipes in different localities, and they are usually chosen in accordance with the adaptability of the water to the material of which the pipe is composed.

Plain iron pipe is non-poisonous, cheap, and easily jointed, but it soon gathers rust, which fills the bore of the pipe and eats it away, necessitating the replacement by new pipe. Galvanized iron, or zinc coated iron, will retain its coating on the inside a little longer than plain iron, but when this coating begins to scale, as it will eventually, the water may become dangerous to health, as the salts of zinc are poisonous with some waters, if taken in sufficient quantity. Tar-coated iron is used extensively on account of its cheapness, but its inner surface of tar will be removed by friction in less than a year. Its advantage lies in the fact that outside contact with all kinds of soil will not affect it as rapidly as it will plain iron. Plain iron is affected by both outside and inside corrosion, so that its decay is hastened.

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by warming your home with our open grate fire that does *More* than look bright and warms *More* than one room.

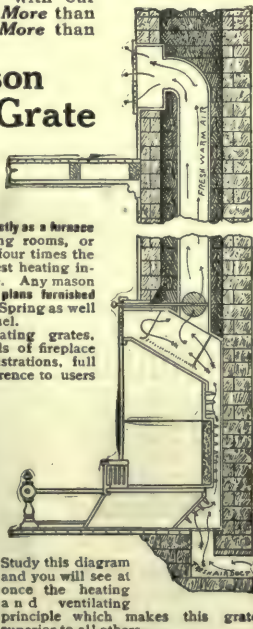
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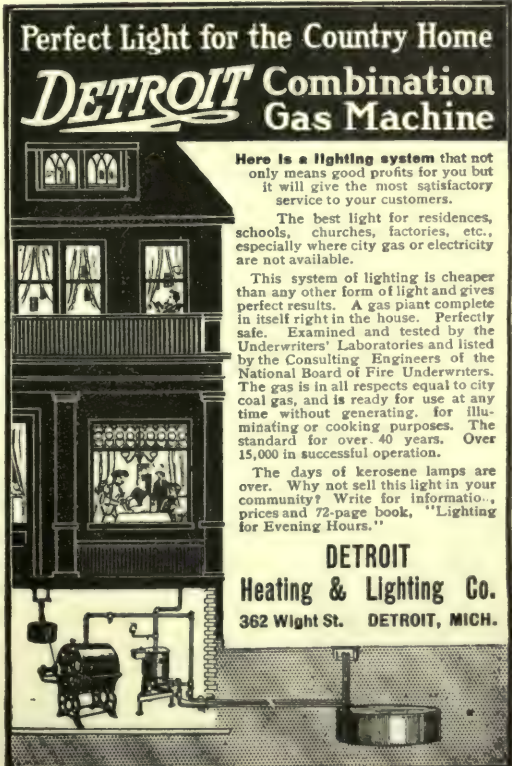
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Heating and Plumbing—Continued

corrosive, but is difficult to work, as a special solder, called "bismuth solder," is necessary to joint it properly. It is very liable to crack at the edge of the joint, and leaks are difficult to repair.

Brass pipe is very durable if properly annealed, is light, strong, and easily jointed. It is said to be poisonous, however, when used to conduct water for drinking purposes. Copper pipes are not used as a cold water supply, but are frequently used on hot water connections between the range and the boiler.—Shoppell's.

Soil Pipes.

One of the most important requirements of soil pipes, of course, is that they shall be self-draining. If the pipe is very large it does not require as great a fall as does a small pipe. No house owner should accept and pay for plumbing work until after it has been thoroughly tested. The best system for testing is to plug up the pipes at their lowest outlet and fill them with water clear to the roof level. This will develop weaknesses or leaks. The inside soil pipes should be of iron and should extend at least five feet through the outside house wall. From this point, for the sake of economy, salt glazed vitrified clay pipe may be used. This pipe will not be affected by the action of steam, gases or acids and the glazing will not scale.—Beautiful Homes.

Electric Heating on a Large Scale.

That electric heating is to become a prominent feature in the homes of the future seems to be an undoubted fact. A new twelve-story apartment house is just being completed on the Morning-side Heights section of Riverside Drive, New York City, almost opposite Grant's Tomb. It will have a roof garden, on which will be a children's playground and a tennis court. Both of these will be inclosed in a grill. Two towers, with a pergola between them, will afford a delightful lounging place in warm weather, with attractive river views for the loungers.

The apartments will range in size from six rooms and two baths to large duplex suites, containing fourteen rooms and

five baths. Each apartment will contain a stationary vacuum cleaning plant. The heating of the apartments will be by electricity, and the structure will be the first example of electric heating on a large scale. Architecturally, the building will be imposing enough to meet the demands of the striking topography of this section of the metropolis. The granite and white-glazed brick finish, relieved by window and balcony lines, will make a very striking effect.—Shoppell's.

Distinctive Colors for Piping in Power Plants.

A plan is on foot, which it is to be hoped will be standardized throughout the country, to adopt distinctive colors for painting piping in power plants to identify the various lines of pipe and thus eliminate confusion from this source among workmen and others.

Apropos of the above we publish the following:

The householder smothered his wrath and descended to the basement. "Are you the plumber?" he asked of the grimy-looking individual who was tinkering with the pipes in the cellar.

"Yes, guv'nor," answered the man.

"Been long in the trade?"

"Bout a year, guv'nor.

"Ever make mistakes?"

"Bless yer, no, guv'nor."

"Oh, then, I suppose it's all right. I imagined you had connected up the wrong pipes, for the chandelier in the drawing-room is spraying like a fountain, and the bathroom tap's on fire!"

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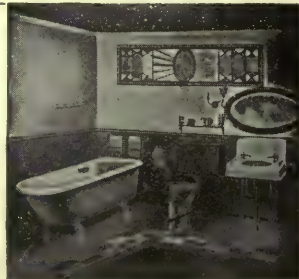
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SPLINTERS AND SHAVINGS

More Appreciation for the Landscape Architect.

Samuel Parsons, Jr., is authority for the statement that the younger generation of architects are giving more attention to landscape architecture and recognize it as a special and separate branch of the profession; that they are more apt to call the landscape architect into consultation before the building is located on its site and co-operate with him toward a successful solution of the problem involved than the older practitioners. According to Mr. Parsons, there is a noticeable improvement in the taste of the general public and while amateur gardeners or florists continue to attempt the practice of landscape architecture, it is rapidly being recognized as a profession composed of educated and enlightened individuals who are something more than horticulturists and truck gardeners.

Tremendous Building Activity.

During the first nine months of the past year, builders in the metropolitan district of New York City have expended about \$250,000,000 in the erection of new structures, and their total outlay for the year 1909 promises to reach nearly \$350,000,000. Suburban builders of homes are passing all previous records. Some 250,000 people will be added to the population of the suburbs as a result of the full year's work. The total outlay in Manhattan has reached \$108,000,000 for new buildings, and \$10,000,000 for alterations, making the expenditures in this borough alone, \$118,000,000 in all. For the corresponding period last year it was only \$68,000,000, so that building operations have almost doubled since then.

Brooklyn's building record for the nine months is about \$45,000,000 for new structures, and \$3,650,000 for alterations, or \$48,650,000 in all. By far the largest part of this amount has been invested in homes, either flathouses or small private dwellings. The total outlay for the corresponding period last year was not exceeding \$30,000,000.

Builders in the Bronx Borough have

spent more than \$30,000,000 on new structures during the first nine months of the year, which compares with a little more than \$12,000,000 for the same period in 1908. The Borough of Queens is maintaining its highest records in building operations. The great mass of its construction is devoted to small dwellings. The borough's outlay for new buildings during the nine months reached \$12,800,000, and the alterations bring this amount up to \$13,400,000. Queens has built more than 3,500 new structures during the year.

The Pennsylvania Railroad is planning to open its tunnels to Long Island in February, at the latest, and this gigantic rapid transit improvement will be of inestimable value to the suburban development of Long Island. Electrification of connecting roads will give direct rapid transit from outlying home centers to the Pennsylvania terminal in Manhattan. The new system will save forty minutes over the old-time schedules.—Exchange.

Minneapolis Building Record.

Totals for building operations in 1909 show that all previous records have been broken.

The record for the first eleven months now obtainable gives a total of 5,823 permits representing \$12,237,240. For the same period in 1908, the permits were 5,394, amounting to \$9,370,745.

In November, 1909, 425 permits were issued, costing \$1,056,385.

For November, 1908, 388 permits were issued, costing \$922,995.

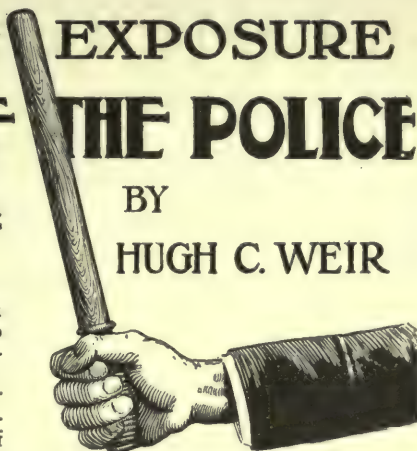
It is confidently expected that a total of \$13,000,000 will be reached when all figures are compiled for 1909. It is known that many large buildings are in prospect for the spring and this year will no doubt show a substantial increase over 1909.

When water splashes at the faucets and there is hammering in the pipes, it may usually be taken for granted that the water pressure is high. The remedy for these troubles is to install a valve that will reduce the water pressure.

A STARTLING EXPOSURE THE MENACE OF THE POLICE

**THREE MILLION DOLLARS A
DAY FOR CRIME**

BY
HUGH C. WEIR



THE police are the public officials closest in touch with our every-day life. They are supposed to protect us from criminals, arrest and punish law-breakers, and in general see that the law is enforced. Are they really doing this? Mr. Hugh C. Weir, a writer and investigator of unusual ability, who has been working for months on the subject, will furnish a group of articles for **THE WORLD TO-DAY** showing that they *do not*. He will not deal in generalities, but will give facts, naming persons and places. He has collected material which promises to make one of the biggest of magazine sensations. These articles will be:

I. Three Million Dollars a Day for Crime
THAT IS WHAT CRIME COSTS THE UNITED STATES.

II. The Bully in the Blue Uniform
WITH SPECIAL ATTENTION TO THE "THIRD DEGREE" PROCEDURE OF THE POLICE.

III. The Plunder of the Police
SOME ACCOUNT OF THE GRAFT IN OUR POLICE FORCE.

IV. Substituting Brains for Clubs
HOW THE POLICE SYSTEM IS BEING TENTATIVELY REFORMED.

The first article will appear in the January number. Besides giving an account of the cost of crime, it will tell in detail how undesirable men are appointed to the police force. How common laborers, and even criminals, are made into "protectors" of the public, and how, within the police force of many cities, there exist organizations which make discipline all but impossible. Every citizen who is interested in the great question of public safety should read this series.

OTHER BIG FEATURES OF THE JANUARY ISSUE

The Governors' Messages to the People

The January number of **THE WORLD TO-DAY** will contain statements from a number of the Governors of the Middle West showing what, in their opinions, are the most pressing problems of their respective States. This collection of brief statements from men who really voice the sentiment of the dominant party of each State will be a revelation to the Nation. The Middle West is rapidly becoming the debating ground of politics. This symposium might almost be called a program for the Nation's to-morrow.

Roosevelt in Africa

Mr. E. M. Newman, the noted lecturer, will tell in the January issue of his meeting Ex. Pres. Roosevelt and his caravan in the heart of Africa and his own impressions of the big game country. New photographs of great interest.

The Old West in the New East

January issue will also contain the first article of our **TRAVEL** series. China and Japan are the countries visited, and Prof. E. D. Burton will tell why the Chinaman as well as the Jap must be reckoned with in the future. These are but a few of the many articles that will make the January number one of exceptional interest and the best issue of **THE WORLD TO-DAY** ever published. If you miss it, you will miss a treat. At all dealers for 15 cents, or send \$1.50 for an entire year.

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GLIMPSES OF BOOKS

Concrete Pottery and Garden Furniture.

By Ralph C. Davison.

FOR the adornment of home grounds, much of interest will be found in this book. Garden furniture of every description is discussed, from the simple vase to the most elaborate modelings in concrete.

The book not only treats of the proper designs and objects for the purpose, but goes into the method of producing them. The handy man will find much that can be made at a small expense, at odd moments and for the manufacturer of cement products, exact instructions are given as to the production of the most elaborate work.

This book should be of general interest. It contains thirteen chapters in 196 pages, with 140 illustrations.

The chapter on color effects in concrete tile, etc., is specially instructive and interesting.

Munn & Co., New York Publishers.
Price \$1.50.

Ann Veronica.

By H. G. Wells.

Readers of the earlier work of this author, will miss the pseudo-scientific method in the present volume. The book is of special interest because it deals with up-to-the-minute problems which we as Americans are just beginning to get a glimpse of. The suffragette movement in England will have its American outbreak without doubt. Dealing with a young girl of more than average mentality the book shows her resentment of parental restrictions, her rebellion and flight. Her experiences are the history of centuries in the relation of man to woman, yet new to her. She takes an active part with the suffragettes, listens to arguments new, old and threadbare. From the militant suffragette, with little need or respect for man in the abstract, she becomes under the spell of love, one who finds her greatest aim in life, to be an existence merged with that of the man she loves. Her trust under the most adverse conditions is rewarded by a happy fruition. This book should be widely read that light may be received on the coming battle of the sexes. Harper and Brothers, N. Y., Publishers. Price, \$1.50.

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The following is a list of Particular Subjects treated in former numbers of the Journal of Modern Construction.

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CONTENTS FOR FEBRUARY, 1911

	Page
EDITORIAL	74
THE DINING ROOM AS IT SHOULD BE	77
A CHILDREN'S PLAY ROOM	83
CONSTRUCTION DETAILS OF THE HOME	87
WALL DECORATIONS	90
A MODIFIED CHALET	94
DESIGNS FOR THE HOME BUILDER	96

DEPARTMENTS

DECORATION AND FURNISHING	108
ANSWERS TO QUESTIONS ON INTERIOR DECORATION	114
HOUSEHOLD ECONOMICS	118
TABLE CHAT	122
CEMENT	126
PAINTING AND FINISHING	132
HEATING AND PLUMBING	136
SPLINTERS AND SHAVINGS	140
GLIMPSES OF BOOKS	144

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A COLONIAL DINING ROOM IN WHITE ENAMEL, SHOWING FIREPLACE, WAINSCOTING, PICTORIAL FRIEZE AND MOULDED CORNICE

KEITH'S MAGAZINE

VOL. XXV

FEBRUARY, 1911

No. 2



A DINING ROOM WAINSCOTED TO THE CEILING

The Dining Room as It Should Be

By MARY H. NORTHEND

(Photographs by the Author)

THE dining-room more than any other room in the house demands careful consideration in the matter of planning and equipment. Its purpose limits its treatment, and affords but narrow scope for individuality which is the most potent factor of interior decoration. Thus the most must be made of limited opportunities.

The vital point is location. In the planning of a new home this matter is

readily solved, if a little thought is bestowed upon it, and even in a dining-room already built, the results of faulty arrangement can be materially lessened at slight expense.

No better location could be found than one that opens directly upon a veranda, to which the table can be removed, during the summer months. Of course in this case the porch must be screened, and long French windows must be pro-

vided to connect the room and the veranda.

Another excellent location is that where windows upon opposite sides of the room, as east and west walls, give opportunity for cross currents of air during the heated term. No other position can give the same effect of coolness, but it presupposes an arrangement of rooms by which large doors can connect the dining-room with other apartments across the hall, or else a very unusual narrowness of the house plan at that particular point, so that its total width is but the length of one room.

However placed, the dining-room must inevitably connect with the kitchen, or with the pantry which serves as an intermediary between the two. In many city houses, this fact unfortunately is apt to determine the position of the dining-room, without regard to more esthetic considerations.

It frequently happens that the most glaring fault of the dining-room is poor lighting. Cheerfulness should be the predominant characteristic of this apartment, and unless ample provision is made for the entrance of sunshine, the room loses the chief asset to its success. It is often possible in a gloomy room to add a bay window at the end or at the side of the room, thus affording additional light, as well as a wider view and an increase of floor space.

The position of the fireplace in the dining-room deserves consideration. This feature, while no longer absolutely necessary for warmth, is always as pleasing as it is decorative. Its best location is in the end wall, rather than at the side. If the space in the centre of the end wall is needed for the buffet, the fireplace may well be put into one corner. This location aids symmetry, if balanced by a built-in china closet across the other corner, with the buffet between them.

These built-in cabinets are worthy of

thought. Not only do they decorate a plain interior and afford the best possible repositories for china ware, but they frequently successfully tone down an ugly bit of construction. Then, too, in a small room, where economy of floor space is necessary, they do away with the need of buffet or side-table.

After location and architectural features, the main consideration is that of finish. Oak is undoubtedly the standard wood for the dining-room finish. Golden oak and antique oak are favorable to color combinations, since they harmonize with almost everything, and form a perfect background. Chestnut makes beautiful paneling; but on the whole nothing exceeds dull finished oak.

For a small room, very flat paneling is best, as the flatter the panels, the larger the effect of the room. A room paneled from floor to ceiling is undeniably charming, but the cost is a considerable item. Only the very best material and the best workmanship are worthy to be used in such details. Any attempt to substitute the cheaper grades of either would probably result in warping and disfigurement which is difficult to repair.

If a part of the wall is to be plaster, the top of the wainscoting should be guarded. If a high wainscot is desired, let it stop at the same distance from the ceiling as the tops of the windows and doors. If the wainscot is to be low, it should reach above the floor only as far as the window-sills, for it will be found that a restful effect can be obtained only by lines that are continuous. If the room is low-studded, never break the side wall into halves by the wainscoting; use thirds instead. Divisions of a side wall into halves, either vertically or horizontally, are to be deprecated.

No other treatment conveys quite the same sense of exquisite neatness and perfect cleanliness which we receive



WHITE FINISH AND QUAINI COLONIAL FURNITURE IN MAHOGANY



A MODERN DINING ROOM WITH CRAFTSMAN MOTIVES

from that introduced by Robert Adam and his brother, and continued in the Georgian and Colonial periods. This gives us clean-looking wall-surfaces, paneled in woodwork for some considerable distance, and finished in plaster above the woodwork. All the wood-finish is hard white enamel, very easily cleansed. A good treatment of the plaster wall above, is to panel that also, in white, light grey, or light green. White paneled walls are always pleasing for a town dining-room, and furnish a becoming background for pictures or for furniture.

If the Adam line of treatment is to be followed, the ceiling and chimney-piece should be decorated in low relief with some one of the designs made by this great English master of decoration. It would be well to have a fine Adam sideboard, with separate pedestals surmounted by the old urns or knife boxes. Either Sheraton or Chippendale furniture would be effective.

The Colonial treatment requires less elaborate decoration than that which has just been mentioned. It is neat, fresh, and dignified. Its white enameled wall surface may be extended only as far as the wainscot extends, for a plastered wall with a plain Colonial wall paper is in perfect harmony. The white enamel contrasts finely with highly polished silver and old mahogany furniture in Chippendale or Sheraton styles.

Quaint touches may be given to a Colonial dining-room, by introducing the plain prim fireplace of our great-grandmother's day, with and-irons, fender, tongs, bellows, and even warming-pan. A grandfather's clock can well be placed in such a room, if we have a corner where it will balance well with fireplace or built-in buffet. The old Windsor chairs may be used, and the rug may be woven to order in imitation of the old-fashioned rag-carpet.

These individual touches have endeared to us the Colonial dining-room, so that more of them are in use among us today than of any other type. Right here is where we must use firm restraint, however, lest we indulge our love of curios at the expense of good taste. We need to apply Sheraton's rule for dining-room furnishing, and limit our individual efforts to "substantial and useful things, avoiding trifling ornaments and unnecessary decorations."

As for the furniture, the material may be mahogany, Flemish oak, golden oak, antique oak, or any of the cheaper and lighter woods, stained to imitate one of these standard sorts. Mahogany is always the queen of woods, but the genuine is expensive. Flemish oak is more reasonable in price, and is exceedingly handsome. Either of these woods, or their imitations, are beautifully harmonious in a Colonial room with white finish. A fine effect is obtained by staining the furniture to match the woodwork, but this makes it necessary to buy the requisite pieces in unfinished wood.

The number of articles to be used is rigidly limited by Sheraton's rule, already mentioned. These include the dining-table and chairs, the sideboard, the serving-table and the china cabinet. These are indispensable, and any one of them can be omitted only when we find a perfect substitute to fill its place.

To this number may be added at will a tea-table; a glass closet; a leather-covered davenport, to match the chairs, in case that they have leather seats; a tall clock, if the style of the room is Colonial; a tabouret for a large fern or artistic bit of pottery in the bay window; and a screen in front of the door through which the food is to be brought. In a very large room, all of these features could be introduced; but far more usually the rooms are small for their intended



POORLY SELECTED FURNITURE IN A ROOM OF ARTISTIC FINISH

purpose, and every effort must be used to avoid overcrowding.

The dining-table is of course the leading feature. It is the central thought of the whole room, and as such it should be treated. Only by keeping this idea constantly in mind can we secure for it the harmonious setting which it should have. Ordinarily speaking, round or elliptical tables belong to round or elliptical rooms, and square or oblong tables belong to rooms that are rectangular in shape. Of course the round table can be used in a rectangular room, if the sharp outlines of the corners are eliminated. Suppose at one end of the room there is a bay window of the curved type. Into the corners of the main wall at each side of this window china closets, in delightful imitation of the old-time corner cup-

board, can be arranged at slight expense. Then the corners at the other end of the room can be neatly done away with by using a tall clock in the one and a screen of good height in the other, where the service door leads to the kitchen. In such a transformed room the round table can be placed with perfect harmony.

But whatever the shape of the table, its proper place is invariably in the exact center of the room. Its size depends entirely upon the number of persons for whom provision is to be made. Its top should be sufficiently ornamental to be left bare. In the centre, a doily, of drawn work, embroidery, or Irish crochet, may be placed, with some simple decoration like a vase of roses, or a brass bowl filled with nasturtiums.

The chairs should be carefully chosen

as to height, with high, flat backs, and seats that are deep and easy. Their style should correspond with that of the finish and the furniture. Comfort will be increased by using the regulation carver's and tea-pourer's chairs at each end of the table, as their seats are slightly more elevated than those of the ordinary pattern, with the addition of arms and of higher backs.

The sideboard or buffet performs much the same office as the serving-table. The former is more suitable for large rooms, and the latter for small ones. By the use of built-in closets, we may dispense with the buffet, in the case of small and informal dining-rooms of a modified Colonial type. We may even omit both details, if we provide a ledge of reasonable width above the lower division of the closet. As this arrangement, if extended, will also do away with the need of a movable china cabinet, it is easy to see that much floor space is saved, and that for small dining-rooms the suggestion has much value.

The floor itself should be left uncarpeted. A Persian rug is generally the most desirable floor covering, unless a plain ground is desired, in which case, a fine

Wilton pile may be chosen. It will be found, however, that a closely-set pattern of harmonious coloring is more serviceable in the dining-room than one of plain color and no pronounced design. This is because it keeps in better condition without showing wear and tear, and also because it gives the room more character.

The ample windows, with which the dining-room should always be provided, should be simply draped with light-colored blinds, and shades to be drawn at night and in the heated period. Silk is much used for this purpose, as are many materials that have a silken finish.

Besides the natural lighting, the artificial light has to be considered. No room with shadowy corners is attractive, and provision should be made for lighting these dark spaces. The fixtures should be chosen with a view to harmony, and those simple and durable should be given the preference. The time has happily passed when the central light is considered sufficient illumination, and, in consequence, the dining-room of the present is a pleasant, cheerful apartment, devoid of dim nooks, filled with depressing shadows.



A DECORATIVE FRIEZE IN COLORS

A Children's Play Room

The Necessity and Advisability of Pleasing Surroundings

By *ARTHUR E. GLEED*

(Drawings by the Author)



A BRIGHT AND CHEERFUL PLAY ROOM



IN THE cultivation of good taste in the home, to begin with the children is a stronghold for the future, and the provision of an artistic and pleasant playroom for their special use will do much for the awakening of their sense of the appreciation of the beautiful. The idea that a room which cannot be used for anything else will "do for the children," is an absurd mistake, and the practice of getting rid

of old furniture and faded draperies by furnishing the children's room with them is really to distort the growing artistic taste in the coming generation, and to show at the same time that we ourselves have no true conception of the word artistic.

The children's room should be a place of happiness. Its coloring should be bright and cheerful, suggesting the outdoor world, and its furnishing should be



THE STENCILLED FRIEZE OF CHILDISH FIGURES

simple and plain, relieved by design of an almost primitive nature, that the whole may be easily understood by the occupants. The hygienic details must be studied, and the choice of a sunny situation is essential, for the room will be used more in winter than in summer. Spacious windows should be provided to admit abundant air and light, and the heating should be sufficiently adequate to admit of the windows being open in winter, that the pure air may be enjoyed whilst the children indulge in active games and dances.

In the play-room illustrated we have a good example of a cheerful environment for children, and at the same time the appointments are inexpensive, easily cleaned, and sufficiently durable to stand the hard wear they are likely to receive. The walls, at the lower part where most of the wear takes place, are lined with a wooden wainscot. Above that they are painted with oil color as far as the frieze,

and the latter, together with the ceiling, have a kalsomine finish. The color scheme is a happy combination of blue and green, used as a background for the warmer and brighter tints of the decorative patterns.

The stencilled frieze is two feet deep, and has the effect of lowering the wall spaces to suit the height of the children. The ceiling and background of the frieze as far as the skyline are tinted a pale blue, and the remainder of the frieze background, forming the distant trees, is tinted a light sunny green. The large trees are put in with a dull blue-green for the foliage and olive green for the trunks. The groups of children are in dainty shades of pink, mauve and yellow, with a dull flesh pink for the faces, hands and feet. The rabbits in the foreground are creamy white, and touches of bright color are added by the powdering of blossoms between them. The design of the frieze is so arranged that it does not



FORMING A PROCESSION ABOUT THE ROOM

form a regular repeating pattern, but can be varied and arranged to suit each wall space. A pleasing group of trees and figures can be placed over each window and door, and then the remaining space on either side filled in to form a procession of children between trees. After the main figures are spaced out, the rabbits and small flowers can be added to the foreground where space suggests them, and the whole lined up with a wooden picture molding stained deep green. The finished frieze will have the appearance of a quaint procession of child figures and rabbits, which will form a series of pictures that will be a delight to children.

The wall space below the frieze is oil painted a light sunny green as far as the wainscot, and the latter is stained deep green and oil finished to bring out the grain of the wood.

One end of the room is fitted with a three-sided settle and a table as shown

in the illustration. This end of the room would be used for all kinds of table games, reading, lessons, and also as a dining place. To complete the dining place idea, a small dresser-sideboard stands behind the projecting side of the settle, and holds all the china, etc., necessary for meals. Children delight in all kinds of housekeeping games, and it should be an entertaining task for them to lay the table for their own meals, and by the stimulus of reality, they will learn the value of much that is usually done for them by adults. Their work would consist only of laying the table ready for meals and clearing it afterwards, for of course all cooking would be done elsewhere. But even this small service, when well done, would be excellent training for the children, and the entertaining of little visitors under such circumstances would have an added pleasure.

The settle could be constructed open underneath as in the illustration or it

could be built in box form and thus provide a handy place for storing books, papers, etc. The seat should be fitted with mattress shaped cushions covered in some dark green material such as serge or denim.

Except where the settle and sideboard stand, the wainscot is capped by a broad shelf, supported at intervals by brackets. This shelf is specially used for toys, for these have considerable decorative value, and are well displayed against the plain green wall. Immediately below the shelf are placed some substantial hooks for rackets, etc., and one particular wall-space could be set apart for wraps.

Growing plants are an important item in a children's room, for apart from their beauty, they are a great educational factor if the child is taught the requirements of plant life. A plant stand such as illustrated would not be a very costly affair, and it would be a veritable indoor garden when filled with blossoming plants. It should be substantially built of wood an inch thick, with legs two inches square that it may stand firmly and bear the weight of a number of pots. The box should be fitted with a shallow zinc tray to take any overflow of water. The roof with its upright supports can be more lightly built, and a pretty effect would be got by making the roof of silver birch bark and training ivy up the posts and over the roof. There are many hardy flowers that will blossom well at a sunny window, and it would not be difficult to keep up a show of color, especially as the pots can easily be removed and replaced by others from the outdoor garden, according to season.

The main part of the room is left clear of furniture, to allow for games and romping. One or two chairs can be introduced, but the settle will supply almost all the seats wanted, and the clear space will be appreciated by the children. If they possess many books, a set of

bookshelves standing on the floor immediately below the toy shelf would be an incentive to tidiness. One large rug to cover the center of the floor need be the only floor covering, and beyond that the boards can either be stained and waxed, or painted a dull green.

The curtains at the windows are of unbleached linen, decorated with a broad border at the bottom edge, executed either by stencilling or appliqued linen. A bold design of apple branches would be a suitable subject as the natural tints of dull green and red-brown would harmonize well with the buff color of the unbleached linen.

Expensive wood should not be used for the fittings and furniture of the room, for children like to be free and active in their own domain. White pine can be made up inexpensively, and when stained a warm green and given a dull polish, it will give an excellent effect. Pictures for the walls, framed in green frames to accord with the woodwork, should be chosen with simple subject and rendered without detail, that they may be easily and definitely understood. Excellent nursery pictures can be obtained printed in bright yet artistic colors, with subjects such as birds, ships, and landscapes treated in a quaint manner, which appeal immediately to the eye and mind of a child.

Such a room would be well worth spending time and money over, for the environment of children needs the utmost study, as they, even more than adults are influenced by their surroundings. If they mix constantly with their elders, and are always forced to adapt themselves to the grown-up world, they miss the natural free growth of childhood. But allowed a living-room of their own, where things are in proportion to their size, and the surroundings are simplified to suit their minds, they will learn more soundly all that is really useful and beautiful.

neath it, or otherwise arranged as shown in figure 8 of the previous article. The studs are now erected, spaced 16 inches on centers and doubled at corners. No notice is ordinarily taken of the position of openings at this time either in the exterior or interior walls. There would seem to be some advantage in marking the position of doors and windows upon the 2x4 shoe before the studs are placed, but it is seldom done. The studs of the outside wall are shown 18 feet long, this being the length commonly used where level ceilings are to obtain in the second story. This gives 9 feet for the first story and 8 feet 5 inches for the second story, both measured in the clear, without cutting the stud to waste. The second floor joists rest upon a ribbon, as it is called, 1 inch by 4 inches, notched into these studs to keep the wall flush on the inside after plastering. See section. The joists may also be notched to receive the ribbon but it is seldom considered necessary, the joist being carefully spiked to the stud.

The interior studs are cut in story lengths only, with provision for a plate spiked across their upright ends, consisting of two 2x4s, upon which rest the inner ends of the second floor joists. The interior studs of the second story rest upon this plate and continue up to a similar plate that supports the attic joists. See isometric view.

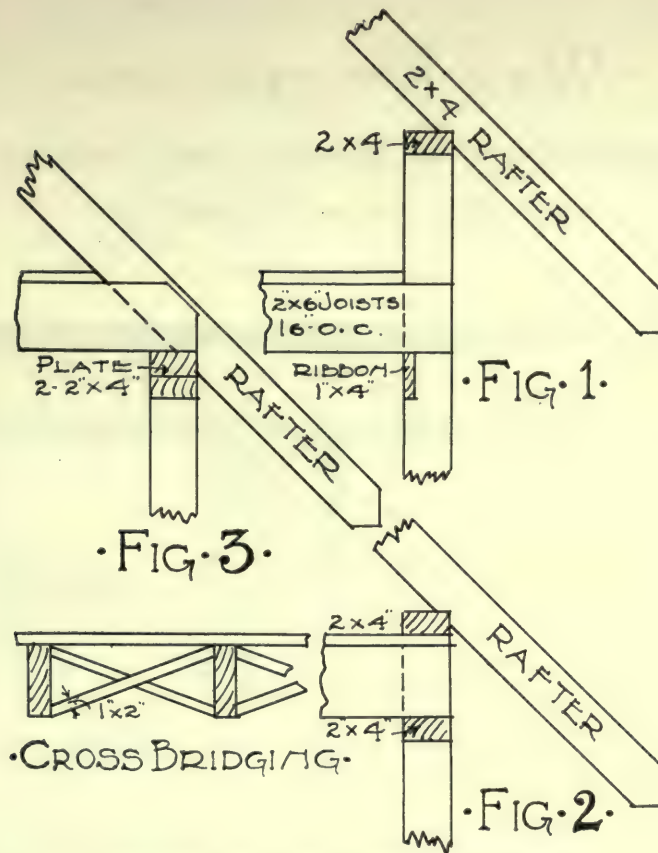
The rafters and attic joists are framed to a double 2x4 plate spiked to the upper ends of the outside studs, the rafters being notched to secure a better bed and the corner of the joists are beveled off in line with the rafter as shown on the isometric view. The upper ends of the rafter are spiked to a ridge board one inch in thickness and in depth as required by the pitch of the rafters. Where rafters coming from different directions intersect a hip or valley is formed and a hip or valley rafter is necessary to carry the

load coming from both directions. This requires a strong timber deeper than the joist framed against it, to include the whole depth of their cut ends. The elevation shows a portion of the exterior with the framing all in place. The studs are shown doubled at the corners, spaced 16 inches on centers, starting at the bottom from a 2x4 shoe and ending in a double plate of 2x4 at the top, on which rest the attic joists and roof rafters. The second floor joists are shown resting upon the ribbon and the flooring in place.

Short pieces of 2x4 should be cut between the studs of all walls, as indicated, for bridging. As soon as the floor joists are in place they should be bridged with 1 inch by 2 inch cross bridging as shown in figure. One line of bridging in a span of 14 feet or less is sufficient. Greater spans should have two lines of bridging.

Window openings are shown with 2x4 doubled about them showing method of construction and support. These openings are cut in after the frame is up and should be carefully framed for strength and accuracy. The studs at either side of the window frame should be set to allow a weight pocket from $2\frac{1}{4}$ to $2\frac{1}{2}$ inches wide. The blind stop, which is that portion of the window next to and underneath the outside casing, should always be wide enough to nail to the studding at the sides, holding the frame securely in place.

Two other methods of placing the rafters and attic joists are shown and a larger drawing of the first method described. Fig. 1 shows the attic joists supported upon a ribbon like that at the second floor level, with the rafter resting upon the plate at the top of the studding. This allows more headroom in the attic at the outer walls, but if the first and second stories are of the usual heights, requires extra long studs at a greater expense. It does give a greater height to the cornice and more space above the



FRAMING OF RAFTERS, JOISTS AND PLATES

second story windows, a feature to be desired. Fig. 2 shows the attic joists resting upon a single plate with an additional plate spiked to them above on which the rafters rest. This requires no more material than figure 3 shown with a double plate, requires a little less framing in its erection, and gives a little more height to the building. The outside boarding or sheathing should be put on diagonally and should be dressed and matched, affording strength to the whole frame and keeping out cold. It will be found that loose knots and knot holes are in evi-

dence after the walls are sheathed, unless a very superior grade of lumber is used and all such places should be covered with waste pieces of shingle, carefully nailed in place with short nails, from the inside. Care should be taken that all portions of the frame are level and plumb, thus avoiding trouble when the more important finishing materials are placed in position.

All portions should be carefully nailed not only to insure safety but to avoid settlement and displacement so often indicated by cracked plastering.

(To be continued.)

Wall Decorations

Suggestions as to Materials and Treatment

By MARGARET ANN LAWRENCE

(Designs by the Author)



AN OVER-MANTEL DECORATION IN TAPESTRY EFFECT



HERE has probably never been a time when the subject of household decoration has received quite the interest which is accorded it at present. The subject is one which is of as great vital importance to the home builder, as is the question of architecture and what might be called the more practical side of house furnishing.

For many years the house painter or decorator used stiff, unattractive stencils on walls and ceilings. Motifs that had no relation either in color or design to anything else in the room—but today it is quite changed. The earnest, intelligent attention given to wall decoration in the modern house is one of the strongest points of difference between the old order and the new, the whole idea being

to make these prominent spaces serve as a natural background for the furnishings.

Women today demand harmony and individuality in their houses. As a result many interesting and artistic decorations are seen done by amateurs as well as professionals.

The hanging of a wall with fabric requires no professional hand. Stretch your strips of cloth, tacking them lightly in place at first as they may require more stretching later. There are many coarsely woven coverings now on the market, all suitable for this purpose. In covering the entire wall, the material may be tacked or pasted to the wall; edges just meeting under strips of lathing or narrow moulding stained to match the woodwork. Finish at the top with picture

moulding, also a narrow strip above the baseboard.

This treatment gives the effect of Japanese paneling and is delightful in appearance.

The next step is in selecting the stencils and the colorings to be used. There is today a wholesome reaction from the elaborate frescoing of garlands, bow-knots and scrolls of twenty years ago. Between this and the severely plain there is a happy medium, where decoration of thoughtful design shall be sparingly used, and will add a touch of individuality to even the simplest house.

If one is afraid to design and cut a stencil most excellent ones can be purchased at the art stores; or they will have individual motifs cut if so ordered.

It is well to practice a little before attempting the wall, to get the desired colorings and spacings. Dilute oil paints with turpentine and then wipe the brush nearly dry. Put on the color in vertical dabs, rubbing in lightly. The stencil should be well fastened to prevent slipping and also at the edges to prevent the color running, leaving a ragged edge. Decide as to spacings. Measure carefully and keep them on a straight line. Charcoal dots and large pins will help mark where the repeats are to come.

We get a feeling of unity in the decoration of a room by taking one motif and repeating it in the stencil on the wall, the embroidery of covers and the combination of both stencil and needle-work on hangings.

The general use of the softly tinted alabastined walls in new houses makes very charming results and lighter colorings are possible.

Take a side wall color of a dull soft medium shade of green, the shade so restful to weary eyes and tired overstrained nerves. Carry it up to the ceiling, tinted in a pearl white. Now stencil a bold conventional motif at regular and

evenly separated distances in a faint salmon pink, with a fine black outline on either side. It should drop about twenty-four inches from the plate rail. Use the color just as it has been prepared for the wall surface, only have it somewhat thicker and stronger in tone. Apply with short even strokes of the brush, taking care not to use too much paint, or it will run under the stencil. Fill every aperture of the pattern before removing the stencil, and have as many brushes as there are colors used.

Now carry the stencil in small size—varied a trifle to fit different spaces, to your curtains, couch cover and pillow or two, and you will have a room which repays in full for all the thought and labor expended, and which has no trace of the commercial ready-made effects secured by wall paper.

Once started in wall decoration, you will be looking for more worlds to conquer; or rather, more walls to cover. There will be a space back of a couch or corner seat, or the wall over a mantel piece. Whatever you do, avoid over decoration.

Relying upon the fact that your wall is some solid color, choose the material to harmonize. Burlap, denim, Japanese grass cloth and matting all take color nicely.

In working on these large surfaces it will be found very much easier to merely trace the design of the pattern on the material from the stencil and apply the color with a large brush. The color to be used is the same as for stenciling on fabrics—tube paint thinned with turpentine or dyes. The applying of these free hand will be found very simple and it is much easier to shade the design a trifle if not bothered with keeping the stencil in place.

A dado of Japanese matting stenciled to correspond with the hangings makes an interesting room. Measure the length



A DADO OF BURLAP STENCILLED IN ROSES

of each wall, avoiding seams when possible. Tack it in place with ordinary tacks. A chair rail corresponding to the woodwork in the room gives the necessary finish at the top. Matting, while very artistic in effect, is not suitable for all rooms. In a study, den or the living room of a cottage it is very pleasing. The color may be applied before the matting is in place or afterwards. A delicate tracing of plum blossoms on bare branches—suggestion of Japanese art stenciled along the side which goes to the top, using dull red, gray green and brown for the stems makes an attractive design.

The design of roses shown was used as a frieze in a room where screen, couch cover and hangings were decorated with the same motif. The material is tan burlap; the colors dull red, leaves green and stems brown. A narrow moulding holds it at both upper and lower edge. In a dining room a plate rail could be used instead of lower moulding. The dragon design is suitable for den or study. The material is Japanese grass cloth. It can be purchased of any large department

store and comes in a variety of good tones, but as a rule cream color is best to use. The dragons were worked out in yellow and black on a soft maroon background, or touches of gold with the black would also be effective. For the woman who desires the effect of a tapestry, the over-mantel decoration shown can be easily duplicated. A soft green cotton rep material was used for the background—this to be the length and width of the space to be filled. White china silk was used for the two larger panels, which were outlined with a small green cord, while natural colored linen was applied and outlined with the silk cord, making panels for the lettering. This was done with brown oil paints, each letter being outlined in black. The foreground is tinted a soft gray green with darker green shadows around the tree trunks; for the sky, faint clouds of blue are shown, and delicate masses of pink nearer the horizon line represent the azalia trees. The tree trunks are of linen tinted with oils in green and brown and give a rounded effect. Silk takes color so beautifully, any background can be

easily obtained, and dyes will be found best for using on this material. The finer details are unfortunately lost in the photograph.

Most important of the charming rooms which go to make the twentieth century home complete is the nursery, where the little ones spend the larger portion of their time. First among the many things which go to make the nursery light and pleasing is the wall decoration, and the importance of this cannot be over-estimated. The many varieties of paper shown fully illustrate this fact, and there is really great difficulty in selecting suitable ones. One thing not to be considered in a nursery is large figured decoration—which when the evening shadows light upon the wall will to the childish imagination assume goblin shapes, terrifying to the extreme. Then, too, bright colors are decidedly unfit for this room. The eyes of the little ones must rest upon the wall tints throughout the day and brilliant colors are injurious. In choosing the color it will have to depend on the size and location of the room. If large and sunny the general scheme should be cool and subdued, using only occasional bright touches of color. On the other hand if one is unfortunate enough to have a dark room or one on

the north side of the house, it should have plenty of soft dull reds and yellows in the decoration.

If possible have tinted walls as they are much more sanitary. If this is not possible, choose smooth finish paper in a soft gray green tone. Stencil a frieze with children's figures or the quaint square animals so pleasing to childish minds. These can be applied directly to the paper, or can be stenciled on linen or common brown crash. These washable wall coverings are especially good for nurseries and the rooms of all growing young people. Some of the coloring in wall papers is poisonous and makes the air unwholesome. Tapestry dyes or oil paints, diluted with turpentine and applied thinly, then pressed with a warm iron will make these colorings washable. The little Kate Greenaway figures marked out in pinks, green and blues are very attractive; the animals in greens or delft blue on the cream crash look well. If one wishes to economize, mouldings may be done away with and to cover seams and outline panels strips of mounting board may be substituted. This comes in good colors and an inch wide strip fastened with a double row of brass headed tacks makes a good finish, or inch wide linen tape could be used.



A DRAGON DESIGN FOR DEN OR STUDY

A Modified Chalet

By UNA NIXON HOPKINS



THE COMBINATION OF COBBLE-STONE, CONCRETE WALL AND BROWN STAINED WOOD IS VERY PLEASING



BUNGALOW with the characteristics of a Swiss chalet is the pleasing result of an attempt to vary the lines ordinarily used in small houses—which are more prescribed than those of larger ones.

The foundation of brick extends upward as high as the belt course and is roughly plastered above the ground. A plastered brick wall continues at the same height, enclosing the porch and terrace, being re-inforced at the corners by cobblestone, and broken by the entrance steps on the front and sides. The light color of the masonry relieves the dark brown of the shakes covering the exterior.

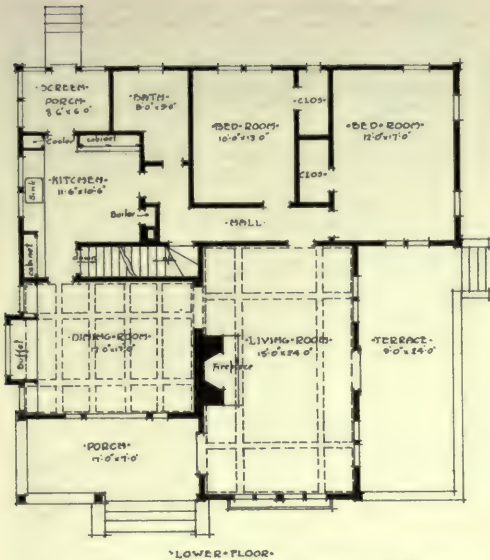
A balcony across the front gives the needed horizontal line to the house.

It is constructed of perpendicular, rough boards—each scalloped along the edges, in the center—and beveled at the lower ends, with a flat board finish at the top.

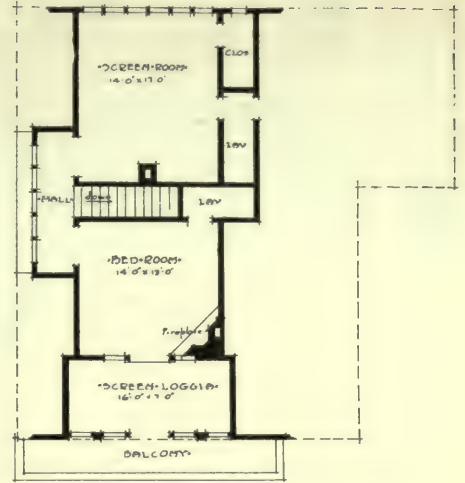
A well proportioned living room has casements along the front, and glass doors onto the terrace flanked by double casements and a large pressed brick fireplace between the outside door and the door into the dining room.

The end of the latter room is given up to a buffet with a window in the center over the shelf.

There are two bedrooms, and a bath, on the first floor, besides two above—and a laboratory. Very little space has been taken up by the stairs. In fact the plan, as a whole, is most compact.



LOWER FLOOR



UPPER FLOOR

THE LIVING ROOM AND DINING ROOM OF BEAUTIFUL PROPORTIONS AND THE CHAMBERS ARE MANY AND OF GOOD SIZE



A MODERN LIVING ROOM FINISHED IN CURLY FUR WITH AN OAK STAIN

Designs for the Home-Builder



HE selection of a design is a perplexing matter, so many different propositions of home life depend upon it, that it is hard to find something that exactly meets the requirements. With this in view it is aimed to make the design section specially helpful.

The reader is advised to go over each design carefully noting the relation of plan to exterior and the general arrangement. Try to build a house of character, that will have something of yourself in it, reflecting lines of thought and study. Simple effects are best both in composition and in the use of materials.

Environment has a great influence upon the nature of the materials best to use and in what combination. A lot covered with trees of natural growth should have a house of different appearance than would be best for bare prairie land where trees must be set out. A hillside overlooking a beautiful valley would indicate the picturesque. There is harmony possible in all situations.

The designs selected cover the requirements of various sites and the business side, as it appears to the individual, has been considered as well as the purely artistic.

No design is admitted to these pages that does not appear to have characteristics which will be of value to our readers. Some must build with the utmost care to get dollar for dollar in return and to such, a design on ordinary lines will often be best. Simplicity and artistic merit go hand in hand and the quality of the work required often means a good price. Preparation for an early start will save money for the homebuilder.

Design B 214

A cozy little home is here provided, giving a very pretty interior arrangement. The den located at the back of sitting room will be found a most desirable feature.

Four good rooms are arranged on the second floor. The finish of the main rooms would be in birch and hardwood floors.

The basement contains a laundry and hot air heater.

Width, 26 feet; depth, 34 feet; height of basement, 7 feet; first story, 9 feet 5 inches; second story, 8 feet 3 inches; second story rooms full height. Estimated cost, \$2,500.

Design B 215

This home is unique and pleasing with its twin gables and cement exterior. So many now consider the porch a place where the family and friends may have privacy and the front entrance a thing apart. This idea is admirably worked out in the plan.

The entrance vestibule serves its purpose and the porch is reached from the side entrance or from the large living room.

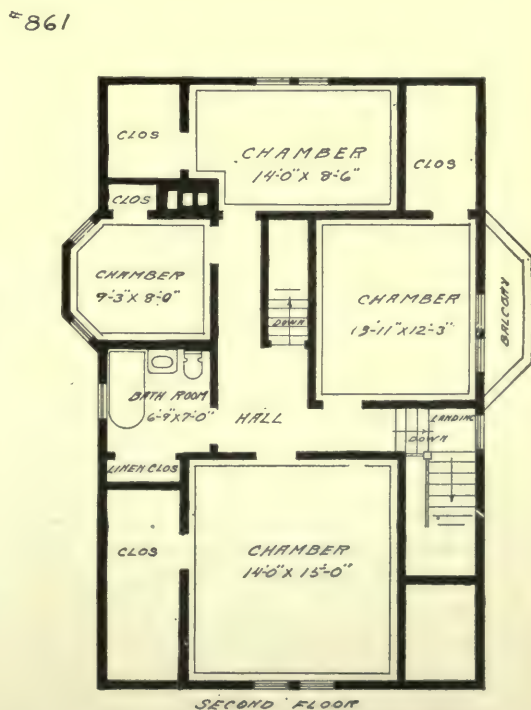
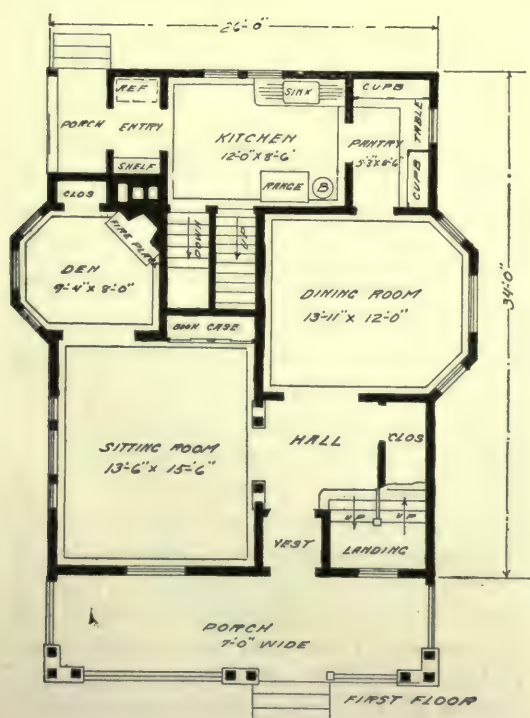
This room with the dining room have been treated much in common with only a ceiling beam dividing them. The fireplace with seats, book cases and flower ledges make pleasant features of both rooms.

The stair up and down in relation to the kitchen, etc., is especially well planned. On the second floor are three good chambers, linen closet, bathroom and balcony. The finish of first is birch in a rich brown stain with birch



A Pleasing Spacious Home

DESIGN B 214



floors. The chambers are in white enamel with birch floors. The construction is frame, and the basement contains laundry and hot water plant. Size, exclusive of porch, 24 feet by 28 feet. Estimated cost, \$4,000. Less expensive finish and materials of ordinary quality would effect quite a saving.

Design B 216

A home built in the Northwest. Cobble stone, clinker brick, siding, shingles and gravel dashed stucco enter into the exterior of this house. The entrance and carriage steps and porch floors are of cement. The main rooms are finished in curly fir, stained and waxed. In the living room is a wooden cornice, chair rail, columned openings and brick fireplace with writing desk on one side and book case on the other.

There are sliding doors to the dining room and it contains a simple sideboard and built-in seats. The kitchen has built-in cupboards and a dumb waiter to the vegetable room. The main floors are of maple, others of fir. The second floor contains three good chambers, a screened balcony and a bathroom. There is good attic space and stair. The floor of basement is cement, the ceiling is plastered and it contains a hot air furnace. Size, 28 feet by 30 feet, exclusive of porch. This is a very complete house and costs about \$4,500.

Design B 217

This attractive little bungalow has a sided exterior and the porch piers are of brick with a vine lattice supported on rafters above. It contains living, dining room and kitchen with two chambers and a bath. A foundation of stone supports the structure, and no basement is contemplated, or heating plant. Provision is made for a fireplace and the kitchen range, however. The finish is of Georgia pine throughout, including floors.

The story is 9 feet in height. A family of three would be accommodated very nicely in this bungalow, the living room being of good size and with other appointments in keeping, it would make a very pleasing home. Few designs are as quaint in appearance and as compact in plan as this. The size is 38 feet wide by 27 feet deep and the estimated cost is \$2,750.

Design B 218

This is a type of the old colonial farm house, modernized with a broad paved terrace in front and a trellis beamed hood over the entrance. The walls are a cream white color with sash and trim painted a pure white. The roof is stained moss green and the blinds a dark bottle green. The plan is the usual colonial type with a center hall and living room on one side and dining room on the other. Kitchen and pantry appointments are very good with convenient stairway arrangements. There are four chambers and bath on the second floor. Finish, except kitchen part, is in white enamel. The floors are of birch. The laundry and hot water heating plant are located in the basement. Because of a beautiful view and garden the porch is located at the rear. Size of house is 30 feet by 32 feet. Cost with economy of construction and materials, \$3,700.

Design B219.

This house is of frame construction with stucco exterior finish, on very plain lines. The arrangement of living-room, dining-room and drawing-room is very impressive with the stair, fireplace and columned opening, all in birch finish. On the second floor are four chambers and a bath-room finished in white enamel. Birch floors throughout. Contains a fair attic space. Hot water plant and laundry in basement. Size without projections, 30 feet by 28 feet. Estimated cost \$4,500.



A. R. Van Dyck, Architect

Unique Cement Cottage Design

DESIGN B 215



Design B 220

A lake home is a desirable possession and this one is especially so because it has all the advantages of a permanent residence. The porch is a delightful feature and could be entirely screened. The arrangement of rooms is admirable and the chambers in number and size to accommodate visiting friends. An ample fireplace affords warmth and cheer for chilly evenings. The finish and floors are in Georgia pine. The roof is stained green, the shingled walls brown and all the trim is painted cream white. For summer use, no heating plant is contemplated. Size, without porch, 30 feet by 45 feet. Estimated cost, \$2,800.

Design B 221

This is a very compact little house occupying, exclusive of projections, only 27 feet 6 inches by 24 feet. On the first floor in addition to the usual living room, dining room and kitchen, is a library which may be used as a chamber as it contains a good closet. On the second floor are three chambers well supplied with closets and a good bathroom. The finish is of birch with birch floors. In the basement are laundry and hot water heating plant. The roof shingles are stained green and those on dormer sided and gable ends are a darker green. The body color on the siding is colonial yellow and the trimmings are white. The cose estimate is \$2,750.



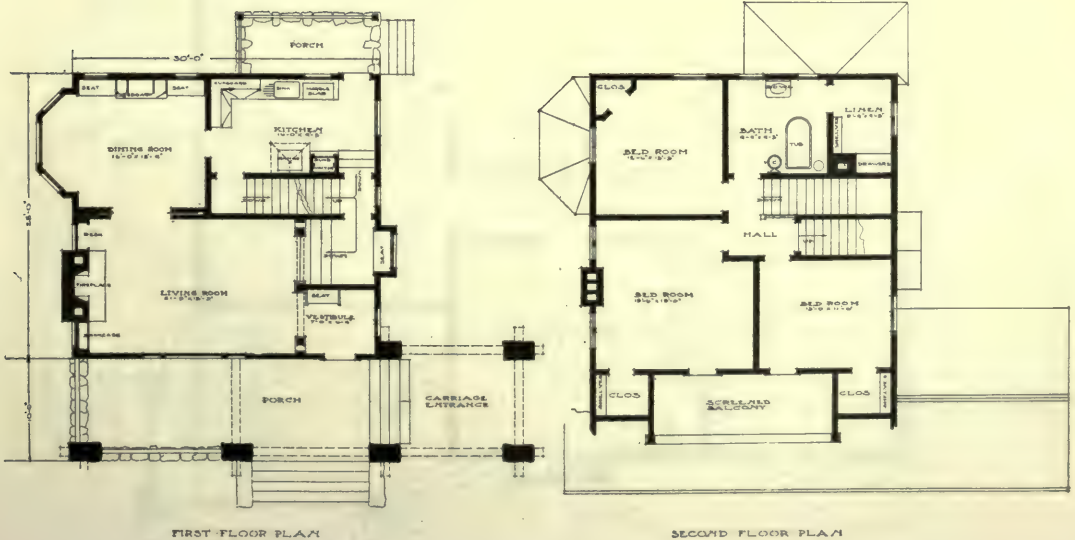
A DINING ROOM WITH ATTRACTIVE LIGHTING FEATURES AND FIREPLACE



Keith & Whitehouse, Architects

A Picturesque North-Western Home

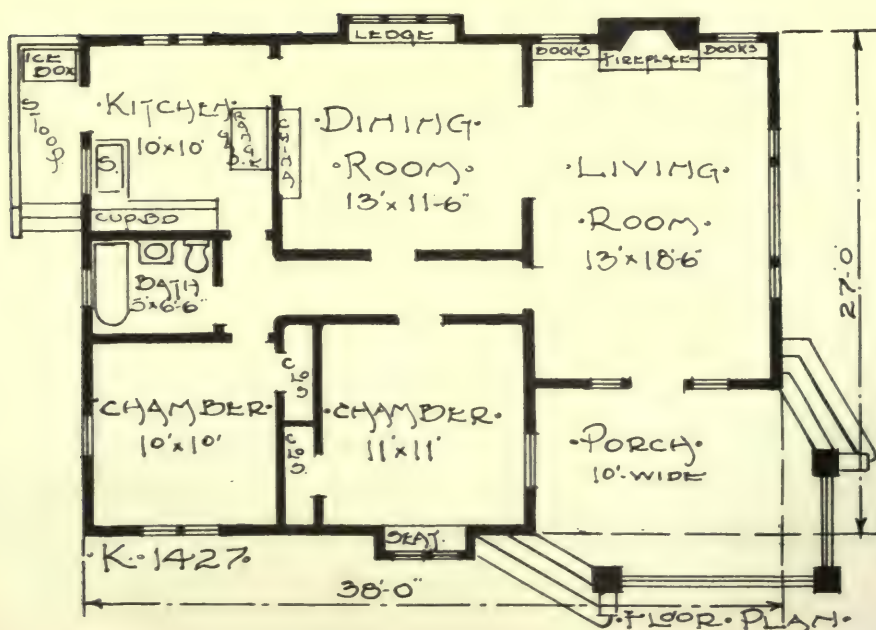
DESIGN B 216





A Bungalow Carefully Planned

DESIGN B 217

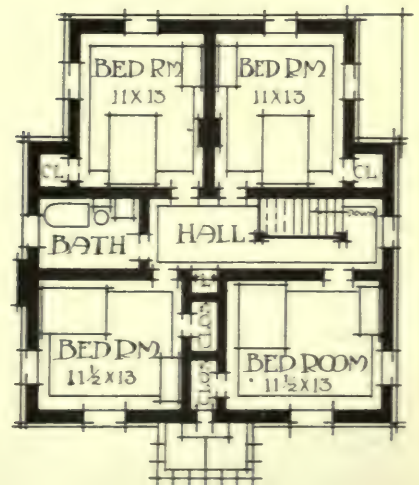
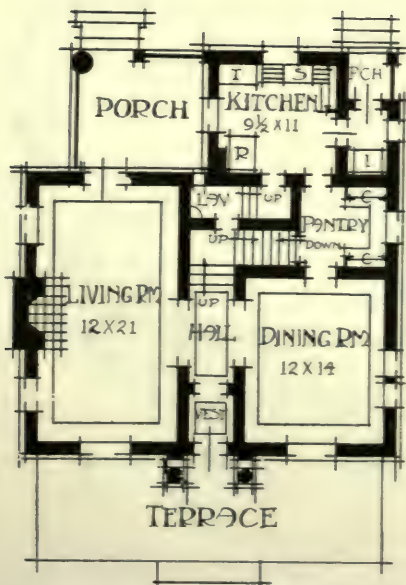




John Henry Newson, Architect

An Old Colonial Design

DESIGN B 218

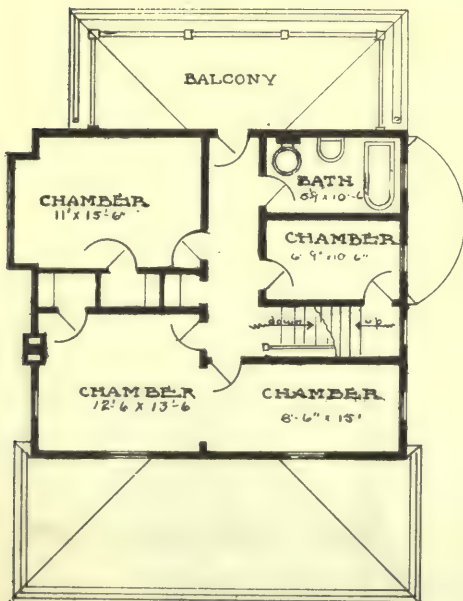




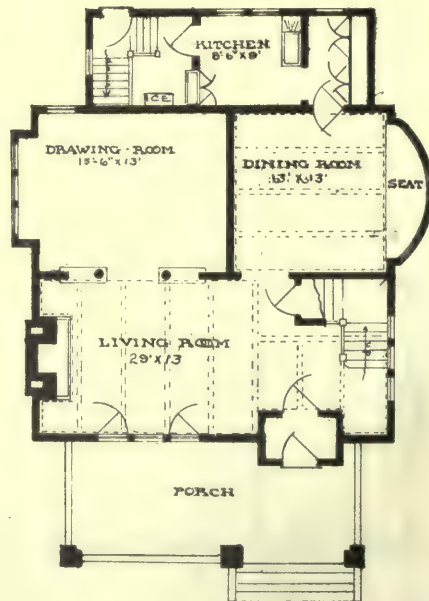
F. E. Colby, Architect

A Stucco House of Frame Construction

DESIGN B 219



SECOND FLOOR PLAN



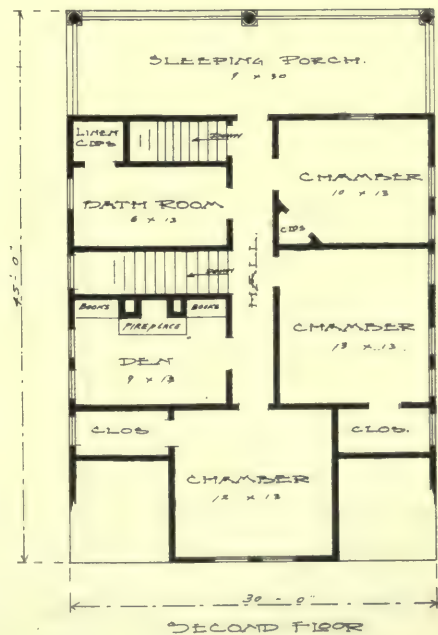
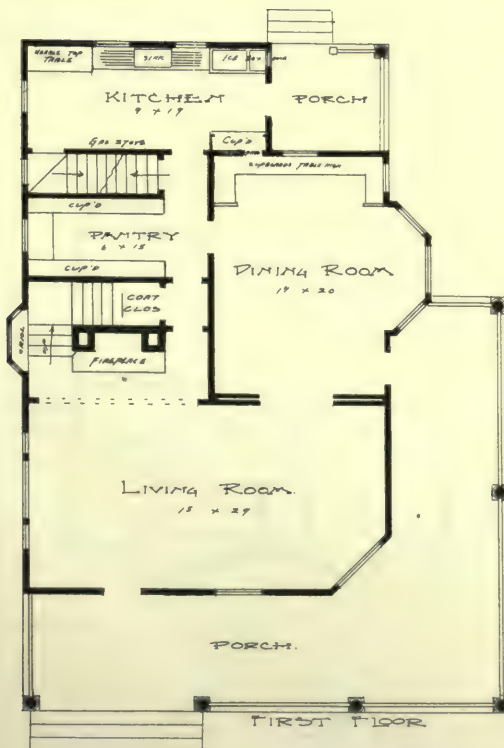
FIRST FLOOR PLAN



Arthur C. Clausen, Architect

A Lakeside Home

DESIGN B 220

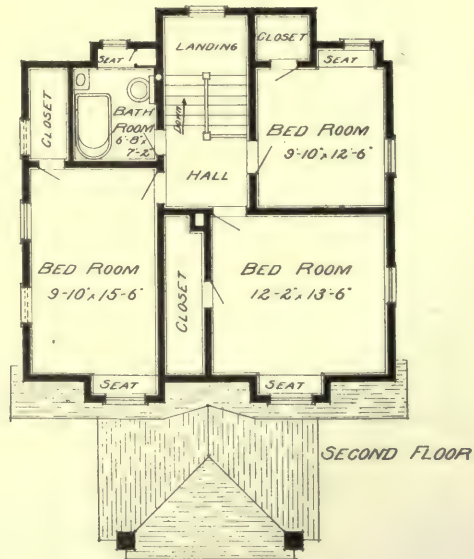
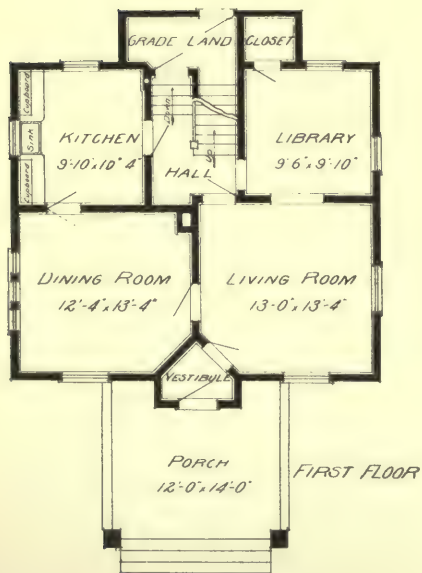




A. M. Worthington, Architect

Gambrel Roof and Dormer Treatment

DESIGN B 221





Designed by the Owner

A Bungalow with a Court

DESIGN B 222





Conducted by ELEANOR ALLISON CUMMINS, Decorator, Brooklyn, N. Y.

Why Blue Schemes are so Seldom Pleasing.

NO color is really so popular as blue, no other is so often hopelessly ugly when applied to decoration. If you have half a dozen tables at a fair, each decorated and furnished in one color, you may be fairly certain that the blue one will be the unsuccessful one. Part of this is due to the fact that many blues change their tone in artificial light, but making due allowance for this still the results are often very disappointing.

Blue China.

One might assume that blue china would fit into a blue scheme, but it takes the hand of an artist to compose such a scheme. Put your blue china in a green room; relieve it against a clear pale yellow; best of all make it the strong color note of a composition in low toned golden browns, but do not mix it up with a lot of other blues.

Blue Blues and Green Blues.

We seldom realize how seldom blue materials, whether papers or textiles, are free from a tinge of green. This is not objectionable, a turquoise blue being one of the most beautiful colors imaginable. But you do not want a room done up in many shades of turquoise blue. Put it with grayish green or with greenish yellow and it is enchanting, but by itself it is overwhelming. The blue for a whole color scheme must be pure tone, modified if needs be only by white or black. You find the sort of blue in Delft china, and in Nankin porcelain, and rightly managed it affords a color scheme of great beauty and refinement. But it is coloring which admits no rivals and you

cannot introduce any other positive color.

Sectional Furniture.

One of the developments of the mortise and tenon construction so extensively used in the making of Mission furniture, is the shipping of furniture to the consumer from the factory in sections, requiring for their putting together a very small amount of mechanical skill. Naturally this sort of furniture is limited in its scope, as it cannot have permanent upholstery, but within well defined limits there is a very considerable choice. Furniture of this sort is made from selected oak of the quality used for the better grades of furniture, and can be had already stained and polished, stained to order, or sent out in the natural wood, for the purchaser to finish himself. As compared with the prices charged by dealers, the cost of the sectional furniture is about half the retail price for furniture of the same quality. For instance, a library table of very simple construction, with a circular top, forty inches in diameter, cross braced legs and a circular under shelf is sold for \$9.25, while its price in a retail shop would be from eighteen to twenty dollars. Moreover it can be had in unusual finishes like Early English, Nut Brown, Weathered Green and English Oak, which are seldom found in ordinary stocks.

The Occasional Bed.

So few city houses have a permanent guest chamber that it becomes necessary to have an extra bed in one of the living rooms. Enlightened taste frowns upon the once popular folding bed and its place is taken by some sort of a couch, either a box couch or a wire cot with a mattress. The latter is by far

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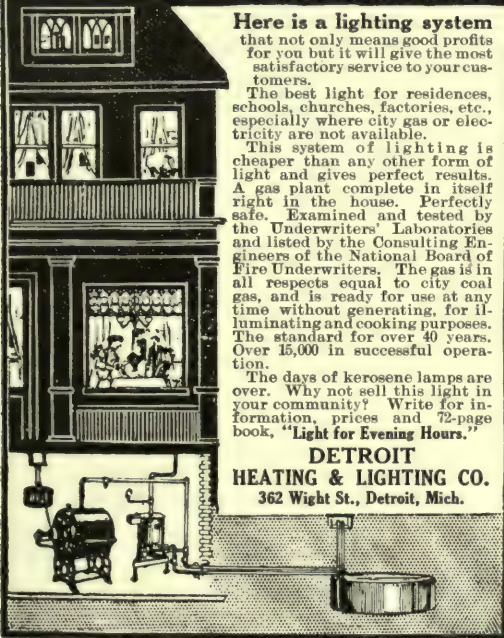
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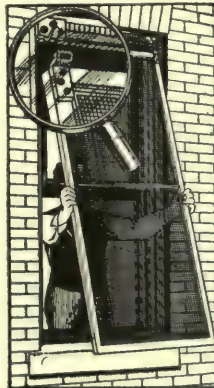
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the most comfortable, as the bed can be made up and the whole concealed by a drapery. It is almost impossible to make up a bed upon a box couch as there is no way of tucking in the clothes. Some box couches are made with a detachable mattress. They cost more but are worth the difference if it can be afforded. A box with a hinged lid, six feet long, a foot high and two feet six inches wide, well castered, can be made at small expense and plainly covered with cretonne or tapestry. The hair or cotton mattress should be covered with the same material, with welted edges, and carefully tufted. The whole thing will cost less than the ready made article and be far more satisfactory, as the box couch is usually upholstered with sweepings, or shoddy, or something equally unsanitary. When not in use the bedding can be tucked away inside the couch.

Space Saving.

In limited quarters one needs to apply the principle of the sky scraper. We may very profitably build cupboards high up on our walls, in which things not in immediate use can be stored away. The writer recalls a clergyman's study, in a parish house building, in which the fireplace occupied an alcove, with bookshelves built in at either end. The ceiling of this ingle nook was three feet lower than that of the body of the room, and the space was closed in with an arrangement of sliding panels. To

be sure this closet was only to be reached with the assistance of a step ladder, but it held an endless variety of things not often wanted.

Hanging bookcases and cabinets are less common than they were a few years ago, which is a pity, for, aside from their convenience they were good for breaking up a long wall space. The smaller bamboo book cases can be hung with excellent effect if the legs are cut off and their places supplied by small turned knobs. Their proportions are seldom very good, and they are improved by cutting off one shelf.

Another saver of space at a lower level is a plate rack. In fact, most small dining rooms, such as one finds in city apartments and the average small suburban house, would be much improved if the sideboard were dispensed with altogether and its place supplied by a good sized serving table, with a long plate rack above it. A plate rack is particularly effective where all the china is in one color, and jugs as well as cups hang from its hooks, and it is quite permissible to have a number at different places on the walls. There is a sort which is more elaborate than those usually seen, which has, beside the places for plates and cups, a section inclosed with glass doors, and is really a hanging closet.

The Old Fashioned China Closet.

In old houses one sometimes finds a closet between the parlor and the dining-room. It is reminiscent of the days when women took great pride in their housekeeping, and were glad to have their china displayed to the best advantage for the benefit of their guests. It is a fashion worth copying in the modern house. Such a room, with a window in it, lined from floor to ceiling with cupboards with leaded panes, with commodious presses for linen, has a dignity never attained by the butler's pantry.

The Dining-Room as a Living-Room.

In reading English books on house furnishing one notes the fact that in the average family the dining-room is used for many other purposes besides eating. There the preference seems to be for a few really spacious rooms on the ground

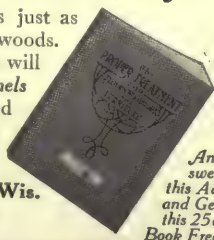
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floor, rather than for a number of contracted ones, each devoted to a special use, and doubtless there is much to be said for their point of view. The average American house is huddled, and a huddled house is never dignified.

But there are manifest disadvantages in using the same table for writing and for dining, and books and china are incompatible in the same cupboard. Therefore the English architect arrives at a compromise and builds his large living room with an annex, a sort of alcove, in which he places the dining room furniture, perhaps separating it only by curtains, possibly with sliding doors, from the rest of the room. This arrangement is sometimes used here in bungalows and other summer houses, but it would seem also to have its merits in a house built for permanent occupation. Of course the alcove would have to be so placed as to have a door into the kitchen. An alcove of this sort might well differ in color and furnishing from the larger space adjoining it.

Walls Without Pictures.

English designers of wall papers draw a distinction between the wall which is to serve as a background for pictures and that which is a decoration in itself. For a room to be hung with pictures they design a paper which is practically a monotone. It may have an elaborate pattern, but that pattern is so well balanced and printed in such slightly varying tones of the same color, that it differs from a plain surface only in having a suggestion of irregular elevation, or of texture. But for the wainscoted room so common over there, with its very limited area above the paneling or for the room with many large pieces of furniture, cabinets and the like, standing against the walls, requiring the relief of strong color and bold design, they

make a wall paper which is a picture in itself. Such were the papers designed by William Morris, and Voysey and Heywood Sumner have followed in his footsteps. As to the use of these decorative papers, which are imported and can be had in the large Eastern cities, and probably elsewhere as well, the hall of a good sized house, or possibly the library with very many books, seems to be about the only room in the American house in which their use is possible. The many papers copying brocades occupy a position between the two, but they are only suitable for a drawing-room or reception-room. If one can acclimatize one of these decorative wall papers, the beauty of its design and the exquisite balance of its coloring will prove a very real satisfaction.

Hanging Miniatures.

Miniatures lose much of their distinctive charm by being hung with other pictures. A group of miniatures of different periods and styles of painting is far more interesting than any number of isolated examples. A narrow space on the wall, between two windows or doors, or at one side of a high cabinet, may be utilized for a group of miniatures. They need a special background. Miniatures in strong colors, or those of men, look best against a red background. Those in more delicate colors, like the average of eighteenth century portraits, are admirably relieved against a ground of grayish green, or of old gold. For a few miniatures of varied styles, a dark old rose is as good a background as can be had, and in all cases the ground should be velvet or some other piled fabric. Attach the strip of velvet, hemmed at sides and end to the wall just below the picture moulding, standing some article of furniture so that its lower edge is hidden.



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ANSWERS TO QUESTIONS

ON INTERIOR DECORATION

Editor's Note.—The courtesies of our Correspondence Department are extended to all readers of *Keith's Magazine*. Inquiries pertaining to the decoration and furnishing of the home will be given the attention of an expert.

Letters intended for answer in this column should be addressed to Decoration and Furnishing Department, and be accompanied by a diagram of floor plan. Letters enclosing return postage will be answered by mail. Such replies as are of general interest will be published in these columns.

H. R. K.—I desire to ask some advice regarding the inside finishing of a simple country home, facing west, rough sketch of which I enclose herewith. I desire color scheme for paper, painting, upholstery and rugs suitable for each floor. I wish something durable and as inexpensive as possible, yet at the same time desire it artistic and in good taste. Would paint or linoleum be better for kitchen floor, and what for dining-room.

The kitchen is to be painted, the parlor and living-room plastered, the remainder of the rooms ceiled and papered. The rooms are small, about 16x18, and it is desired to make them look as large as possible, as well as the halls. I had thought of a light brown oak finish for the woodwork, thinking the light would be better than a dark color to make the rooms look larger, but have decided on nothing. Tell me how the floors should be finished around the edges of the rugs, also give complete information regarding the finishing of the open fire places, which are in each room, and which are made of plain red brick. We have no expert workmen near, so will ask that all terms be as plain as possible, in order that they may be thoroughly understood and carried out.

I enclose some samples of paper for help as relates to color only, and if you can find in them something suitable, it would aid materially in getting the paints and colors. We had thought of having the plastered walls painted, but the halls, dining and bedrooms will be papered, and it seems that only solid colors in paper would be suitable and harmonize. Would not solid colors tend to make the rooms look larger? The writer is partial to solid colors always, but it is hard to obtain the same here, and if you can do so, would like you to give me the name of a house from which I might obtain same.

We had thought of a straw color for walls and cream for ceiling of parlor, but as this is a south room, fear the color would be too warm, but it might be used in a north room, if harmonious with the scheme you suggest, so leave that to you. Please mention the length that the drop ceiling should extend down the walls. The rooms are only moderately high.

H. R. K. Ans.—I have made selections from the paper samples sent and attached them to your plan sketch. Plain walls are good, but I should certainly use a figured paper in the hall. One of the new landscape papers in all gray tones, would be exceedingly pretty in a southern hall with ivory woodwork. The woodwork in parlor should be ivory, like ceiling and the two chambers should have white woodwork. The light brown paint would give a dingy characterless interior. Do the living and dining-room woodwork with stain of the manufacturer whose name I enclose, thinning it and putting it on light. It will be a hundred times prettier even on pine than brown paint. Your rooms are not small, and the brown stain will not make them look smaller. The floors should be stained oak all over, shellaced and waxed.

Your fireplaces should have simple wood mantels to match the finish of the woodwork in each room. Do not drop the ceilings at all, unless the walls are more than 9'6". Linoleum is the best choice for the kitchen floor.

H. P. T.—Enclosed please find a sketch of the first floor of my new home. Will you kindly help me in deciding the colors for the walls which are to be tinted. The woodwork and furniture are golden oak and the floors hardwood. The house is on a corner lot facing north.

H. P. T. Ans.—With golden oak woodwork it is advised to tint the hall a golden brown with cream ceiling: the living-

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ANSWERS TO QUESTIONS—Continued

room a soft ecru, with ceiling very light shade of same; and the dining-room walls old blue, with paler shade for ceiling. This will suit the southwest exposure of dining-room, while the ecru and brown tones are best for the north light.

Mrs. W. B. H.—I wish to have my cottage redecorated this fall and will appreciate suggestions from you in regard to wall papers, woodwork, hangings and floor coverings. The woodwork in all the house is the natural pine just hard oiled, but it doesn't harmonize with each room. I would like to have your ideas on the subject. Nearly all my furniture is quarter sawed oak. Can you suggest finishes for walls and woodwork to harmonize with furniture. If I stick too closely to buffs, creams and browns won't the effect be very dull and lifeless?

The house faces east which is very desirable in this climate.

Mrs. W. B. H. Ans.—Replying to your recent letter asking for suggestions on interior decoration would say that if it is desired to retain the oiled pine finish in living and dining-room, you cannot do better than keep these rooms in browns and creams, especially as they are on the north side of the house. They need not, however, be dull and lifeless. The rugs can introduce rich notes of color if ornamental, though rugs in brown shades with touches of yellow and cream would be better. The dining room could have a frieze of trees against a sunset sky or a frieze of autumn leaves. There are lovely curtains of ecru scrim with scattered figures in light green and gold. In the living-room, a closer harmony in browns would be very attractive. We should advise, however, painting the woodwork of parlor and bedrooms, ivory white and using on the wall of the east parlor a light gray paper in self-toned all-over design. Have your furniture upholstered an artistic cretonne, the ground well covered with a tapestry design wherein dull reds, yellows and deep blues are blended. In one bedroom the walls could have a light blue chambray paper and the curtains, chair covers, bedspreads and bureau covers of flowered chintz showing much old rose on a mode ground. With such a treatment even oak furniture

could be used with the white woodwork. The thing is to get the right cretonne.

Mrs. J. E. M.—I want to get some information in regard to the wood finish and color scheme in my new house. The house is a story and a half bungalow type, faces east, with an east and south gallery. The living-room and dining-room are on the front, facing east. The dining-room has panel wainscoting up to plate rail, and I want to know what color to stain the wainscoting and what color paper to use above. I have Mission furniture, Early English, also a green art square with little shades of tan and black that I wish to use in this dining-room. The living-room opens into dining-room with plain square opening, with sliding doors or portieres; has fireplace, three windows in east or front and two in south. I want to use weathered oak Mission furniture in living-room, so please suggest color for paper, wood finish and color of brick for open fireplace. I prefer solid color, ingrain papers. There is a bedroom back of the living-room, with fireplace and two windows in south. This room opens into back hall, also onto gallery on the side. Please suggest color scheme throughout; the furniture for this room is in quarter sawed oak.

Mrs. J. E. M. Ans.—In reply to your inquiry, desire to say that inasmuch as the furniture of all the rooms mentioned is oak in some of the brown tones, the stain used for the woodwork had best be of uniform stain throughout of the kind stated in our letter. This will be in harmony with the different finishes of the furniture and have a more restful effect than if you tried to match each room exactly to the furniture.

Since the dining-room rug is green with tan, the wall above the wainscot could be a soft tan with ceiling a lighter shade. As this is an east room, curtains of yellow silk would give warmth of color.

The living-room wall could be a dull grey-green with fireplace facings of dark, rough surfaced brick of a greenish hue with undertones of dull red. The oak furniture of the south bedroom will be well relieved against a wall of soft old blue, with chintz curtains and bedspread in soft dull old rose and blue.



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A Recent Controversy.



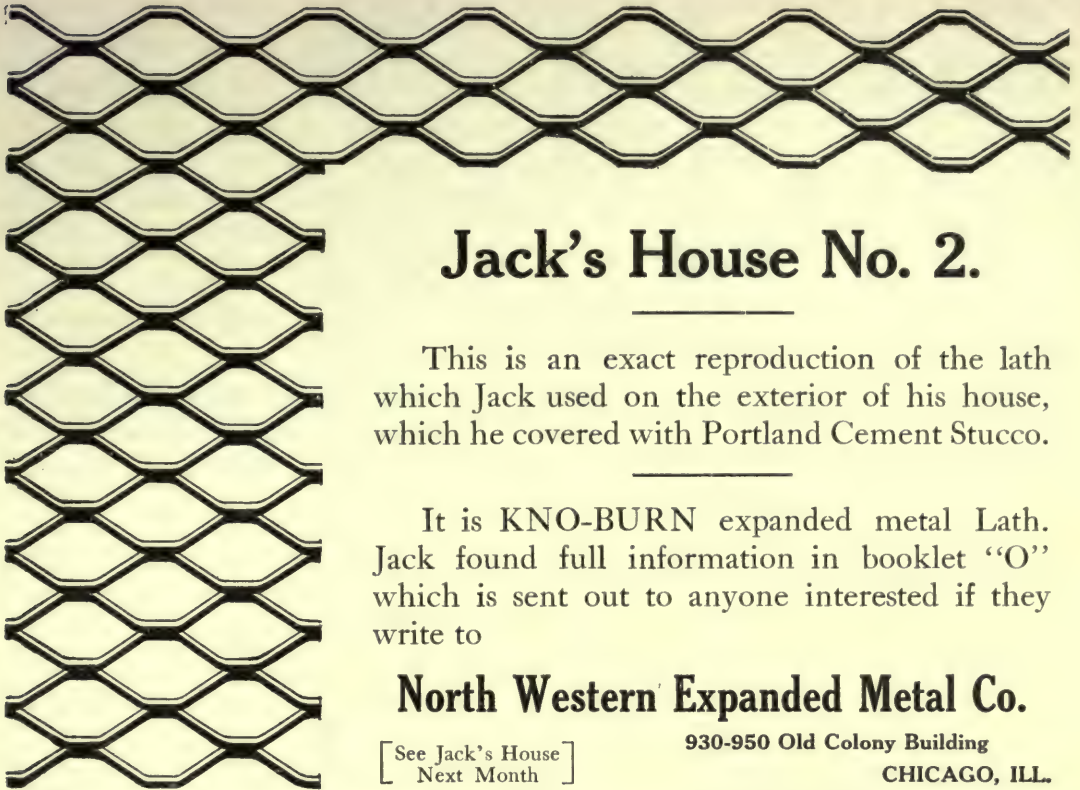
N animated discussion has been going on in one of the New York dailies as to the respective demands upon the mind of an educated woman of professional and domestic life. A great wail has gone up as to the cruelty of expecting women who have received a liberal education to bring their minds down to trivialities like buttons and porridge, important as these may be to the welfare of a family. It was assumed of course that all educated women are engaged in highly intellectual pursuits and the emancipated are having it all their own way, when "A College Bred Insurgent," came forward with the assertion that, having married after a number of years of more or less successful professional life, she has found that the successful conduct of a household of husband and children makes greater demands upon a trained intelligence than most of the work done by women in other spheres of activity. She points out the fact that very much of so-called professional work is monotonous in the extreme, an unending round of trivial repetition, giving as examples teaching, the bulk of the work done by women in publishing houses and as editorial assistants, and the occupations described by that very ugly word, secretarial. She declares that her present state has a varied charm in its constant opportunities for the exercise of every sort of natural or acquired ability, which was utterly lacking in her admittedly successful professional career.

Following suit, various other ladies of similar experience have hastened to corroborate her statements, until the pro-

fessional woman, so far from being enviable is made to appear the victim of circumstances, professional only because she has had no chance to be anything else.

Of course there are exceptions. There are women naturally destitute of the all-around ability which the housekeeper needs, who yet specialize admirably. The routine character of most of the professional work open to women is not objectionable to them, may even be helpful to their particular type of mind. But most women are different. They are impulsive and spontaneous, getting at things intuitively rather than reasonably, and these are the qualities which go to make the successful head of a household and, in the last analysis, these are the traits which make a woman lovable and good to live with, and not to be compensated for by any merely intellectual qualities. The value of mental training for the average woman is not to fit her for the doing of distinctly intellectual work, but to enable her to use her native abilities to the best advantage. College ought not to make a woman superior to ordinary work, but fit her to do it better, by giving her a better standard of values and by teaching her to adapt means to ends with absolute accuracy. Moreover, even a smattering of science, and most colleges give much more than a smattering, is of the greatest value in a calling so largely concerned with nutritive values and the chemistry of food as that of the modern housekeeper.

When all is said and done, the whole contention harks back to this; that whatever is set before a woman to do is her profession, not less the ordering of a



Jack's House No. 2.

This is an exact reproduction of the lath which Jack used on the exterior of his house, which he covered with Portland Cement Stucco.

It is KNO-BURN expanded metal Lath. Jack found full information in booklet "O" which is sent out to anyone interested if they write to

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[See Jack's House
Next Month]

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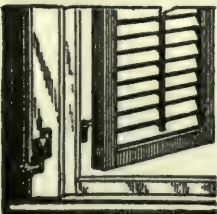
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Burglar Proof.

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Can be applied to old or new houses, whether brick, stone or frame, and will hold the blind firm in any position.

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Send for Illustrated Circular if your hardware dealer does not keep them, to

MALLORY MANUFACTURING CO.

251 Main Street

Flemington, New Jersey, U. S. A.

HOUSEHOLD ECONOMICS—Continued

house and the rearing of children than medicine, or law, or pedagogy, or any other of the avenues of activity which the development of the forces of modern life has opened to her.

The Household Refuse.

What to do with the rubbish of the house, garbage, sweepings, papers, all the thousand and one things which accumulate so rapidly, is a puzzle in places where there is not a regular system for the removal of all this debris. The intelligent housekeeper will try to find some means of its disposition, other than that of absolute destruction, but always of a sort which will not be a nuisance to other people.

Pigs seem to have been created for the purpose of acting as scavengers, but it is seldom practicable to keep a pig, and the one decent and sanitary thing to do with garbage is to burn it. Many people have an unreasoning prejudice against this, being certain that it must smell. So it will, if a damp mass is laid upon a slowly burning fire, but if it is put on by degrees, when the fire is glowing, the chimney draft opened and all the others closed, there is no odor at all. Large things, like watermelon or squash rinds can be dried out before being burned by being laid over the oven, under the back lids of the range. It may be half a day before they can be poked over onto the coals, but ultimately they will reach the disintegrating point.

Sweepings can usually be burned, also scrubbing cloths and the like, which can

be helped to extinction by having a little kerosene dripped over them, putting a layer of paper on top so that the match will not come in direct contact with the oil. Garbage, sweepings, old cloths, all these are unwholesome refuse for which nothing but destruction will answer. Letters and waste paper should share the same fate. But let the stamps be saved as there are many charitable institutions which collect them.

The Worth of the Cancelled Stamp.

This, by the way, has long been a puzzle. Vague legends as to the value of a million stamps have floated about for many years, but the facts are well known. Cancelled stamps are used in large quantities for the manufacture of papier mache, being forwarded to Switzerland through an agent in New York, a barrel at a time.

The Useful Newspaper.

The discarded newspaper has many uses which should save it from destruction. The kitchen should always have a pile somewhere within easy reach. Lay down papers on the table when you are making cake; spread them under the ironing board and use one to wipe the iron on; spread a thick layer under the ironing sheet and blanket to protect the table; have two or three, thickly folded, upon which to set dripping pans and saucepans when they are taken from the range; have a pad of them in front of the sink and at the side of the table where one stands to cook, where they are a fair substitute for a rubber mat.

Many other uses will suggest themselves, and the surplus can always be sent to a paper mill. In some places considerable sums have been realized for charities by the systematic collection of newspapers, for which a good price is paid by the ton.

Do you ever think when you are packing a missionary box to fill in the corners with pieces of brown wrapping paper and rolls of tissue paper? These things, the commonplace of towns, are treasures in remote places, and the same thing is true of string.

HESS MEDICINE SANITARY LOCKER

THE only modern Sanitary Steel Medicine Cabinet or Locker.
Handsome beveled mirror door. Snow white, everlasting enamel, inside and out.

FOR YOUR BATHROOM

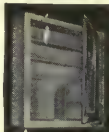
Costs less than wood and is better. Should be in every bathroom. Is dust, germ and vermin proof and easily cleaned with warm water.

Made in four styles and three sizes. Price \$7.00 and up.

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Makers of the Hess Steel Firecase.
Sold on Approval. Free Booklet.



Write for Our Free Book on Home Refrigeration

It tells you how to select the Home Refrigerator—how to know the good from the poor—how to keep a Refrigerator sweet and sanitary—how your food can be properly protected and preserved—how to keep down ice bills—lots of things you should know *before selecting any Refrigerator.*

Don't be deceived by claims being made for other so-called "porcelain" refrigerators. The "Monroe" has the only real porcelain food compartments made in a pottery and in one piece of solid, unbreakable White Porcelain Ware over an inch thick, with every corner rounded, no cracks or crevices anywhere

The "Monroe"

A Lifetime Refrigerator

hiding places for germs—no odors, no dampness. The leading hospitals use the "Monroe" exclusively and it is found today in a large majority of the very best homes. It is built to last a lifetime and will save you its cost many times over in ice bills, food waste and repair bills. Other refrigerators must be made with sections to come apart—bolts, screws, braces and strips to work loose—and with cracks, crevices and corners in which food collects and decays—germs breed and odors arise to taint the food placed therein.

The "Monroe" is never sold in stores, but direct from the factory to you, freight prepaid to your railroad station, under our liberal trial offer and an ironclad guarantee of "full satisfaction or money refunded."

Easy Payments We depart this year from our rule of all cash with order and will send the "Monroe" freight prepaid on our liberal credit terms to all desiring to buy that way.

Just say, "Send Monroe Book," on a postal card and it will go to you by next mail.

(8)

MONROE REFRIGERATOR COMPANY, Station 6, Lockland, Ohio

NO DELAY TO GET THE CLOTHES DRY ON WASH-DAY

When using the "CHICAGO-FRANCIS" Combined Clothes Dryer and Laundry Stove.



A Modern Residence Laundry Room showing installation of "CHICAGO-FRANCIS" Dryer and Laundry Stove

Clothes are dried without extra expense as the waste heat from laundry stove dries the clothes. Can furnish stove suitable for burning wood, coal or gas. Dries the clothes as perfectly as sunshine. Especially adapted for use in Residences, Apartment Buildings and Institutions. All Dryers are built to order in various sizes and can be made to fit almost any laundry room. Write today for descriptive circular and our handsomely illustrated No. K 12 catalog. Address nearest office.

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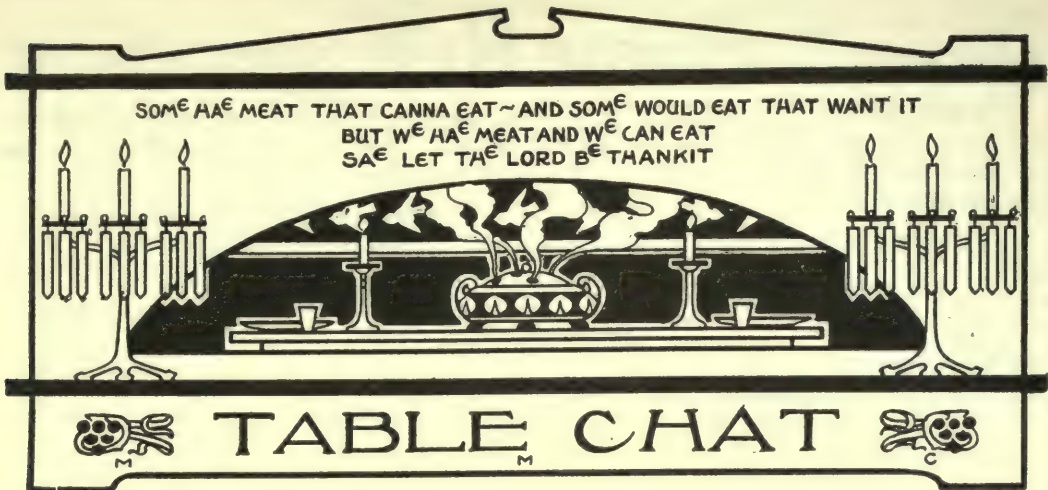
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Mid-Winter Table Decorations.



THE flower par excellence for February is the hot-house tulip, with its delicious shading from pink to deep cream. It is the least bit stiff, but when a mass is spread out in a low glass bowl, the straightness of the stems is not specially noticeable, so satisfying is the color. Or, for a long table they may be used in three glass vases, a taller one in the middle, a smaller one at each side of it, the tulips arranged with asparagus fern. Such flower holders can be had in sets of three or five, connected by chains, but the effect is rather set. They look better when isolated. Now that epergnes have come back, one may construct a pyramid of fruit in the centre of the table, with flowers at the corners in rather low vases.

Fern dishes are deservedly popular, but are very hard to keep in good condition in highly heated houses. It is almost necessary to remove them to a cool place between meals, unless one is willing to renew them every few weeks. And, apropos of ferns, beautiful fern dishes have been made from old-fashioned silver plated casters, not the revolving sort.

A permanent table decoration which is pretty and unusual is a dwarf tree. The fashion is a Japanese one, but the tiny tree can be had from city florists. It may be planted in some sort of a flower pot, or rise from a mound of moss arranged on a tray.

Faience Receptacles.

Coburg faience is ivory white, and it comes in curious forms, suggesting the balustraded parterres of a formal French garden. There is usually an inner and outer receptacle and the flowers and foliage are arranged in the space between the two. Of course only very small flowers can be used and the effect is formal in the extreme. Candle sticks can be had to match. Some of the faience is plain, other gilded.

Far more beautiful, if less novel, are the small oblong flower boxes in ivory Italian terra cotta, with decorations in relief, generally classic ones of figures and animals. The smaller sizes are good for small flowers like violets, with a glass or metal receptacle inside, or they will hold three or four small ferns. The beautiful tones of the faience contrast delightfully with the colors of the flowers or foliage.

Using French Chestnuts.

Most of us are very conservative about trying new articles of food. We stick to our old friends and are blind to the merits of any others. But in cities where there is a considerable foreign population new articles of food are often brought to one's attention, some of them with substantial advantages over those to which we are accustomed. The French or Italian chestnut, for instance, is better and cheaper than our own nut, and has the advantage of always being in season. For those who are unfamiliar with it, it may be said that it is nearly as large as

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THE BEST BY TEST**

Artistic and Attractive in appearance, Durable and Economical with Superior Fire-Retardative and Weather-Resisting Qualities to meet **Extreme Weather Conditions**. Sparks, Hail, Sleet, Sliding Ice, Rain, Snow, or the extremes of Cold and Heat do not affect its superior Upper Coating, which is made with two separate and distinct surfaces, i. e., **BIRD SAND** and **"TWOLAYR" SLATE CHIPS**. (Patent Pending.)

For the **"TWOLAYR" Slate Surfaced Material**, Natural Colored Slate of **Unfading Quality** is used, the fine slab-shaped Slate Chips being embedded into the **Pure Asphalt Composition** so thoroughly— and put there to stay—that a smooth, even upper mineral surface (there being two layers of the slate chips) is the result, thus securing the well-known **IMPERVIOUSNESS** and **WEATHER-RESISTING QUALITIES OF SLATE**, AT **ONE-FOURTH THE COST**.

2	Permanent Natural Slate Colors	{	SLATE-RED	{	UNIFORM SOLID SLATE Surface. Requires no Painting. Kept Clean & Bright by the Rain.
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Rich Table Effects

in silverware are always to be had in the famous **1847 ROGERS BROS.** silver plate, a fact that is well worth remembering when newly furnishing or replenishing the home.

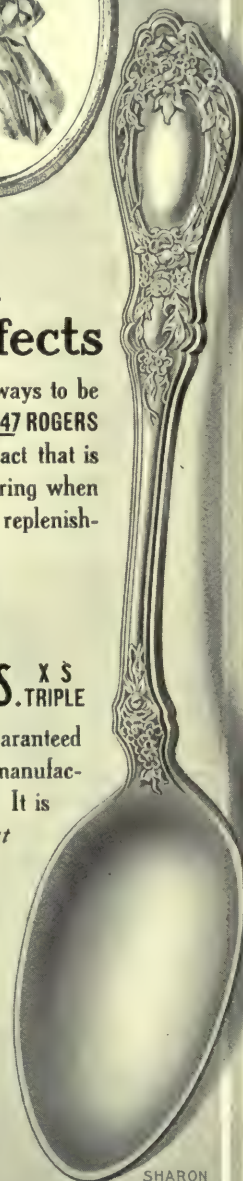
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ROGERS BROS. X S TRIPLE

silverware is fully guaranteed by the largest silver manufacturers in the world. It is *"Silver Plate that Wears."*

A new pattern—the *"Sharon,"* is illustrated here. It has all the richness and charm of solid silver.

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MERIDEN BRITANNIA COMPANY
(International Silver Co., Successor)
Meriden, Conn.

New York Chicago San Francisco Hamilton, Canada

TABLE CHAT—Continued

a horse chestnut and neither as sweet or as mealy as our own.

Italians use chestnuts not as a dainty but as a staple article of food. They cook them whole or make a puree of them. They are also served as a salad and used for various sauces and entrees. Perhaps their commonest use is as a stuffing for poultry, for which they are boiled and mashed fine, a cup of chestnuts added to each cup of plain bread and butter stuffing, with a little cream, a dash of cayenne and a very little hot water. The stuffing should be tender but not moist enough to be soggy. The chestnuts are of course cooked in salted water, an end of the shell being cut off before they are put in. An old fowl can be stuffed with this mixture and braised, after the fashion of a pot roast, and is extremely good.

A puree is merely the boiled and mashed chestnuts put through a sieve, seasoned exactly like mashed potato. It may be thinned out with a little stock and served as a border to chops, in a ring of jellied chicken, or with fillets of fried fish.

Again the chestnuts are boiled in stock, mixed with a cream sauce and served as an entree in a hollowed out loaf of bread browned in butter. Or small rolls can be used instead of the loaf.

For a salad, have the chestnuts boiled, peeled and chilled, mix them with a few chopped green peppers and capers and lay them on heart leaves of lettuce, covering with a mayonnaise made of lemon juice instead of vinegar. Chestnut soup is merely cream of chicken seasoned with salt and paprika, to which a suitable quantity of mashed chestnuts is added, the whole cooked slowly fifteen minutes and strained. Serve it in bouillon cups for a first course at a company luncheon.

A chestnut sauce for puddings or ice cream is made by simmering boiled chestnuts in sugar syrup, with a little sherry and grated orange peel, covering the saucepan tightly so that the wine will not lose its strength. That very expensive foreign sweetmeat, marrons glaces is neither more nor less than large

chestnuts cooked till tender, shelled and skinned, dried in a cloth, and simmered in thick syrup.

A Use for Princess Lamps.

Or is their vogue so long passed that even the name is forgotten? They were small lamps with a standard and circular oil tank, the whole of porcelain, very popular with china painters some fifteen years ago, and many of them must survive. Fitted with some sort of a fluffy shade, they are extremely pretty for opposite corners of a supper table, taking up less room than candelabra and giving more light. The writer is under the impression, possibly erroneous, that she has seen them in the popular colonial glass. Lamps have one substantial advantage over candles that they are very much safer. With the flame protected by a chimney the most nervous hostess may be at ease.

New Paper Napkins.

Extremely dainty paper napkins for supper parties are of white crepe paper with pinked edges and inch wide borders, either pink or green, with three or four gilt lines inside the color. They cost twenty-five cents a hundred.

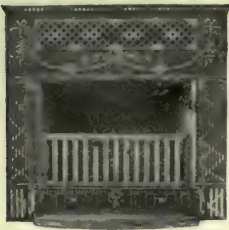
Colors for February Festivities.

Lincoln's birthday seems hardly acclimatized as yet, but the national red, white and blue is certainly the most appropriate coloring for the great patriot. Scarlet is sacred to St. Valentine, as being the color of hearts, but blue ribbons and pink roses have equally sentimental associations, while the Continental uniform colors of blue and buff are as suitable for Washington's Birthday and a much more effective decorative scheme than the stars and stripes.

Duck and Oranges.

Thick slices of acid oranges as a garnish for roast duck are common enough, but try the combination of dice of cold duck with double the quantity of sliced oranges, dressed with salt, oil and paprika, with a garnish of olives, and served on lettuce leaves for a Sunday night supper.

YOU can get as much heat with one Aldine Fireplace and save 60 per cent of your fuel bill as from four common grates.



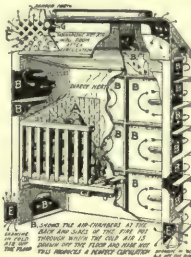
This is because it is really a return draft stove in fireplace form. 85 per cent of the heat is thrown out into the room instead of 85 per cent being wasted as in common grates.

It can be set in any chimney opening at half the

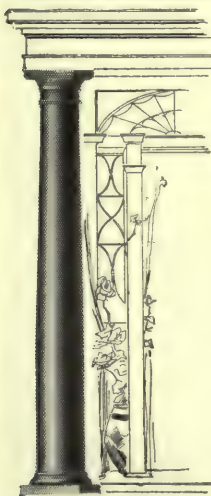
cost of a common grate, no special chimney construction is necessary, no pipe to connect, extra large fire pot; made in seven patterns, at prices no higher than any good common grate.

Send for our free booklet and see how an Aldine is suited to your needs. 50,000 now in use.

Satisfaction guaranteed or your money back.



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Makers of all kinds of Fireplaces.



California Redwood

Best Porch Wood known

REDWOOD withstands the weather better than any other wood suitable for porch work. Does not crack, contains no pitch, is free from knots and does not rust or rot. If you do not know what a wonderful material Redwood is for porch work ask us to tell you more about it.

The illustration shows our special "Eureka" porch column worked from 1½ in. staves. It is **guaranteed** not to "open" up, crack or warp. Will retail \$1.00 per post over any other wood, and net you a greater profit.

Talk Redwood—it means more money for you and greater satisfaction to your customers.

Write for our special folder on Redwood porch work.

The Foster-Munger Co. Chicago, USA
AMERICA'S GREATEST SASH & DOOR HOUSE

Our book No. 108-J shows our latest designs in Wood Carpet, Parquetry Flooring, Grilles and Mantels. Ask for it if you haven't a copy.

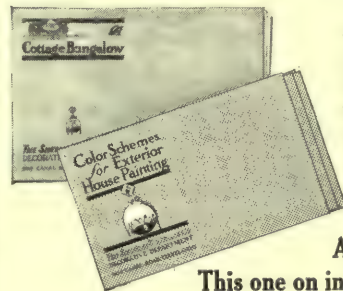
Stencil No. 106



Wouldn't you like to know in advance what colors would look best on the outside of your house?

We have a Portfolio of color schemes for house-painting which we send free on request. This shows colors in artistic combinations on actual houses. There are fifteen of these plates, each showing a different style

of architecture and each suggesting a different color scheme with complete specifications for obtaining it.



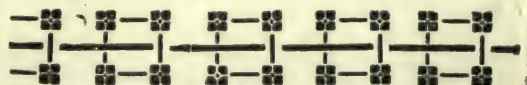
Another Portfolio
This one on interior decoration

This Portfolio shows an attractive cottage bungalow, decorated and furnished throughout. Each room, as well as three exteriors, and a veranda, are shown in their actual colors, and accompanying each plate are carefully worked out specifications. Even the curtains, rugs, draperies and furniture are suggested. You can adapt any or all of these color combinations in the Portfolio, or our Decorative Department will prepare without cost special suggestion to be used, upon request.

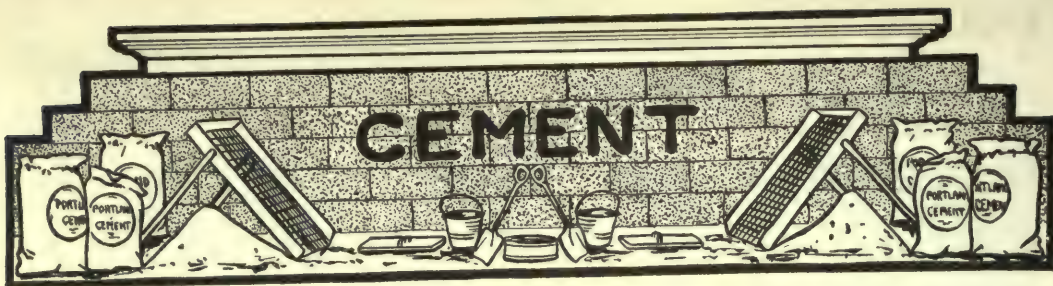
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Sold by merchants everywhere. Ask your local dealer for color cards and full information. For the Special Home Decoration Service write to the Sherwin-Williams Co., Decorative Dept., 629 Canal Road, N. W., Cleveland, O.



Stencil No. 35



The Past Year in the Portland Cement Industry.

THE Geological Survey figures for the year 1909, showing a production of nearly 63,000,000 barrels of Portland cement, was quite a surprise to those interested in the industry. The remarkable upward growth of the curve of Portland cement production is one of the greatest features of American industry, marking as it does a gain of nearly 60,000,000 barrels in output within the last decade. The development in the year 1909 was, to a very great degree, outside of the well known Lehigh district, which, in 1899, produced nearly 73 per cent of all the Portland cement manufactured in the United States, while in 1909 it produced about 36 per cent.

The growth of the industry has been generally distributed over the country, and it is becoming more and more recognized that the fundamental principle that the price of Portland cement is the mill price, plus the freight and plus the handling or, in other words, the cost to the consumer.

From figures so far gathered and made public, the indications are that the year's output for 1910 will run between 70 and 75 millions of barrels, the percentage of growth being possibly less than the average percentage in previous years. But, in considering this fact, it must be remembered that the sum total of production has grown so rapidly that a growth of 20 per cent upon the figures of the present periods would aggregate more than 12,000,000 barrels, whereas the 20 per cent average growth in previous years rarely exceeded from 6 to 8 million barrels per annum. In figuring this large increased output for 1910 much consideration must be given to the wide pub-

licity that the Portland cement industry has had.

Impervious Concrete.

By Albert Moyer, Assoc. Am. Soc. C. E.

In the minds of the laymen, particularly a man or woman about to build a residence, the principal prejudice against concrete is dampness. This universal building material has been found so prominently successful for a variety of purposes, that nearly all prejudices have been removed. This one, however, seems to remain among those uninformed and unskilled in engineering.

Concrete properly proportioned and properly placed is probably as dense as any building material known, therefore, as impervious to water. Aggregates such as sand, gravel or crushed stone can be proportioned practically and economically so that impervious concrete results.

It is unnecessary to use patented or other waterproofing compounds with well proportioned concrete, natural methods are far more permanent than artificial. The following description of the concrete water tower which has just recently been erected at Westerly, R. I., should dispose of this subject once and for all.

The tower was erected by the Athaw Construction Co., of Boston, Mass. It is composed of concrete made of an average mixture of one yard of stone, one yard of sand, 2 5-11 barrels of Portland cement to one yard of concrete, and about 5 per cent of hydrated lime. The tower holds 650,000 gallons carrying a total height of 70 feet of water; inside diameter is 40 feet; the walls are 14 inches thick, reinforced with steel rods.

As the tower was made water tight by the density of the concrete great care was exercised in the choice of the aggregates and the cement; in mixing, the



Asbestos "Century" Shingle Roof—Residence of Dr. J. B. Porteous, Atlantic City, N. J.; H. A. Stout, Atlantic City, Architect; Atlantic City Cornice Works, Atlantic City, Roofers

Asbestos "Century" Shingles

"The Roof that Outlives the Building"

WHEN the roofing contractor brings you an estimate for the roof—just ask him how much repairs and painting are going to add to the first cost.

Asbestos "Century" Shingles make an absolutely permanent roof—no repairs, no painting—and their first cost is no higher than you expect to pay for a first class roof.

They are the first *practical lightweight* roofing of *reinforced concrete* and are the only indestructible roofing known to the building trade.

Asbestos "Century" Shingles literally outlive the building. They improve with age and exposure. Cannot rot, rust, crack, split or blister. They are weatherproof—fireproof—timeproof.

All over America and Europe you will find proof of the durability of these shingles on all types of buildings. The illustration shows the residence of Dr. J. B. Porteous, Atlantic City, N. J., one of the thousands of buildings in this country roofed with Asbestos "Century" Shingles.

You can get Asbestos "Century" Shingles in three colors—Newport Gray (silver gray), Slate (blue black), and Indian Red—in numerous shapes and sizes. Ask your responsible Roofer about Asbestos "Century" Shingles. Write for our illustrated Booklet—"Reinforced 1911"—full of valuable information for the man with a building to be roofed.

The Keasbey & Mattison Company

Factors

AMBLER, PENNSYLVANIA

following excellent method was employed; as a little water was put into the mixer, it was followed by about half the required amount of stone; this was turned for a few minutes until the blades were well cleaned; the cement and sand were next added and finally the balance of the stone for the batch. The concrete was mixed sloppy and very carefully placed as there is no final finish on the outside surface. No water or even dampness has shown on the surface.

Earthquake-Proof Construction.

We all remember the Messina earthquake, which spread ruin and death throughout that district of Italy. Shortly after the earthquake, a royal commission was appointed to investigate the most suitable building materials and regulation for earthquake countries.

That reinforced concrete has demonstrated its efficiency for this use is shown by the following paragraph from the report of the commission:

"After an examination of the various systems of construction admissible, the members of the committee are firmly of the opinion that structures whose walls and floors are of reinforced concrete, with certain special modifications and subject to the adoption of other special materials for certain parts of the building, are best adapted to resist the various disturbances arising out of seismic movements, and, therefore, those most highly suited to combat the effects of earthquakes."—Exchange.

Penetration of Concrete by Frost.

We want to build a concrete protection to prevent a supply pipe from freezing. The pipe is 4 inches in diameter and 30 feet long. My idea was that if a boxing of concrete, two feet square, was made around the pipe it should keep out the frost.

It is generally felt that properly cured concrete is absolutely immune to frost. We should scarcely advise you to make a box of concrete, two feet on the side, around a four-inch pipe. In our judgment, six inches would be ample. The essential thing is to have an insulating air-space.

Granulated Slag in Concrete Block.

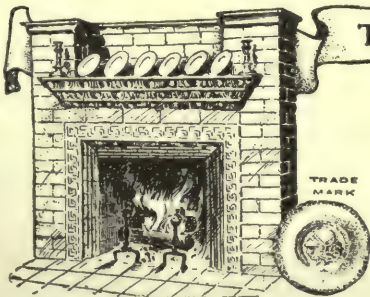
Is granulated slag ever used in the manufacture of concrete block? We have some that is sharp, but rather porous. Sand has to be shipped here and costs rather high. We can get slag cheaper.

If slag is entirely free from particles of unburned coal, and if it has weathered for a sufficient time to free it from sulphur and other impurities, it is used in concrete, but not where any great weight is to be carried. Well graded slag finds its place in curtain walls, partitions and similar construction. Slag concrete naturally possesses high fireproof qualities.

Cement Blocks With Wet Mixture.

In the following is described a successful process to manufacture concrete building blocks with a wet mixture.

The molds are filled with a rather stiff wet mixture of concrete. The facing for



The Heart of a Room

WHETHER in living Room, Hall, Den, or Bedroom the fireplace with its cheery blaze is the center of attraction. Be sure this chief decorative feature is the best obtainable, both artistically and practically. No other form of fireplace equals the brick mantel; and the best brick mantel made is the **P. & B. BRICK MANTEL**.

Artistic, safe, practical. Made in sixty-seven styles, embodying the best ideas of English and Continental brick work, and in six colors of brick. You can readily select a design and coloring that will harmonize with any style of interior decoration. Several sizes to fit any room, or any corner of the room. Composed entirely of brick—no danger from the hottest fire. Shipped carefully packed in barrels. Any mason can connect with chimney. Complete working plans accompany each mantel. Whether you are building, thinking of building, or simply remodeling an interior, send for our sketch book, to be had for the asking.

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If You Have A Fire-place



You can secure four times the usual amount of heat by using a

Jackson Ventilating Grate

These grates each heat two or more rooms on one or different floors in severest weather, and they will heat an entire residence with two-thirds the fuel of a furnace.

IF YOU HAVE NO FIREPLACE you can secure the effect of an ordinary open grate by the use of a MAYFLOWER OPEN FRANKLIN. Many people use them in preference to the ordinary open fireplace.

CATALOG "K" shows the Ventilating Grate. Send for this, and also for catalogues of Mantels, Franklins, Andirons, or anything else you wish in the fireplace line.

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is pure and absolutely uniform. It is made from the finest raw materials. We also make stainless ATLAS—White Portland Cement for decorative purposes.

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CEMENT—Continued

the block should be one part cement; and one and one-half parts coarse sand, which should also be a rather stiff, wet mixture. The facing is placed on the block in a ridge through the center the full length of the block. A piece of moistened cheese cloth that is wider and longer than the mold is then spread over the mold, and the face plate, which is perforated, is pressed on the cloth, the impression made, the face plate is removed and the cloth is stripped from the block.

A simple way of testing the method is to cover a little facing material with cheese cloth, and make an impression with a piece of carved molding.

The cost of 24-inch blocks based on labor at \$2.00 per day, cement at \$1.40 per barrel, and sand at \$1.00 per yard, the body of the block being a four to one mixture, is as follows: Smooth face piece, five cents; hammered face piece six cents; and the rock face piece, eight cents. The full block (two pieces) smooth block, ten cents; hammered face, eleven cents, and the rock face, thirteen cents.

More defective walls are built by the use of too much lime in the mortar than any other cause. Mortar for wet-mix blocks requires but little lime, as the blocks are practically waterproof.

In all the walls made with one two-

piece blocks the vertical joints are at the center of the open spaces in the walls, which is an advantage, as all vertical joints should be pointed or plastered over the side of the wall to insure a tight joint.

The molds are sanded before they are filled with concrete. The sides are higher than the ends in order that the face plate may be held in position when the impression is made. Wet blocks can be made faster and with less hard work than dry blocks, as there is no tamping and they do not require sprinkling and care after they are made.

Information Wanted Concerning Treatment of Concrete Surfaces.

A report has recently been issued by the committee on exterior treatment of concrete surfaces of the National Association of Cement Users, of which Mr. Leonard C. Wason, of the Aberthaw Construction Co., is chairman. It is the wish of the committee to obtain additional information from manufacturers, engineers and users of appliances and materials for coating concrete surfaces. Any information in regard to the above would be much appreciated. Correspondence in regard to same should be addressed to Leonard C. Wason, president, of the Aberthaw Construction Co., 8 Beacon street, Boston, Mass.

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and it will fill every requirement, besides giving a handsome appearance. Is of a Silvery Gray Color and Marble coated on both sides.

Comes in One, Two and Three Ply Extra Heavy and Burlap Extra Heavy.

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"The Home of Quality"

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in that new building of yours because SACKETT insures greater comfort, better walls and will save you future repair bills.

☐ SACKETT is the ideal lathing material. Has superior advantages which you cannot afford to overlook. SACKETT is fireproofing, soundproofing, heatproofing, coldproofing and lathing in one simple operation. SACKETT comes in stiff, true, firm sheets, 32" x 36", about the thickness of lath and is nailed direct to the studding or joists and plastered over.

☐ SACKETT Plaster Board and U. S. G. Hard Wall Plaster bond together perfectly and make solid, durable and sanitary walls of unequaled quality—the kind of walls that will make your building worth more.

☐ Only the conspicuous merits of SACKETT can be presented in any single advertisement. Our booklet K covers the subject thoroughly and contains information of vital interest to YOU. Send for it, and we will also mail you a sample of SACKETT Plaster Board showing its use in connection with U. S. G. Hard Wall Plaster.

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All cement, brick and stucco
exteriors need

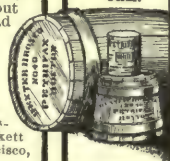
PETRIFAX Cement Coating

Without it rain and dampness are sure to penetrate, causing damage and unsanitary conditions.

Petrifax waterproofs the exterior. It consists of a mineral base, which is carried into the pores of the cement by a volatile liquid, which evaporates quickly, leaving a hard yet elastic surface that will not crack, chip nor peel, even under climatic changes. To cement and stucco it gives a uniform and pleasing color that these materials themselves never have, and without destroying their texture. Let us tell you more about this successful waterproof coating. We are always glad to answer questions. Ask for Booklet.

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Makers of Dexter Brothers' English Shingle Stains.
AGENTS—H. M. Hooker Co., Chicago; John D. S. Potts, 218 Race St., Phila.; Carolina Portland Cement Co., Birmingham and Montgomery, Ala.; Jacksonville, Fla.; Charleston, S. C.; New Orleans, La., and Atlanta, Ga.; C. M. Brockett Cement Co., Kansas City, Mo.; Sherman Kimball, San Francisco, Calif.; F. S. Combs, Halifax, N. S.; AND DEALERS.

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are on
every
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HESS, 717 Tacoma Bldg., Chicago



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Buys this
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PRICE ON THIS
Piano-Finish, Selected Figure,
Quarter-Sawn Oak Mantel is
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Dealers' price \$40 to \$50.
It is 82 in. high, 60 in. wide, 36x18 French Bevel Mirror, four elaborate capitals. Includes Tile Facing, 60x18 Hearth, Plated Frame and Club House Grate.

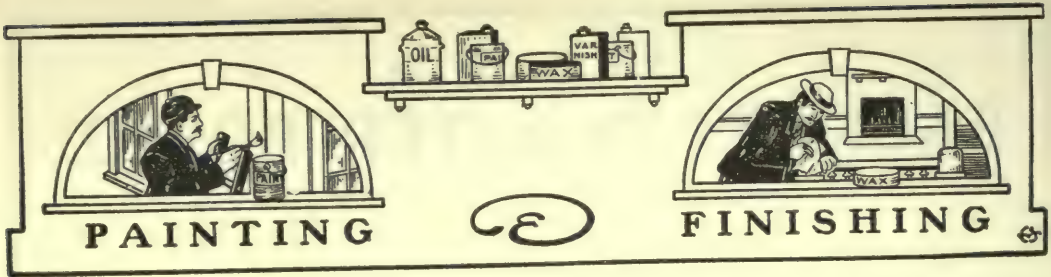
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Painting and Varnishing When Frosty.

THE nights are frosty in most parts of the country now, and it is well to remember this when having exterior varnishing or painting to do. Varnishing should be done as early in the morning as possible, so that it can set before night. Paint will not be seriously affected unless a severe frost comes, in which case the paint had better be at least partly dry before the end of the day, otherwise it may be caught by the hard frost and ruined. Light frosts do not affect paint very much, if at all, but the hard, freezing frosts will damage paint if in a fresh condition. Also, the painting on the north and northeast sides are most likely to be hurt, while that done where the wind of a frosty night does not hit will escape.

Too Much Paint Being Used?

There is no question about the value of thin coats well rubbed in and out, as the painters say. A heavy coat of paint is always a bad thing. Better four thin coats than two or three coats containing as much paint as the four thin coats. It is not so much a question of how much lead or how much oil to use, but how much to rub it out on the work. Make the paint rather stiff, but rub it out well.

What Gold Size Is.

Gold size may be either a varnish, or a more elaborate and indefinite compound. In either case it should be a quick drier and have a tough substance. The former class is preferable, as being definite. In appearance it will answer as a hard to medium dark varnish. An inferior gold size sometimes met with is made up of half-and-half boiled oil and benzine—rosin varnish, with perhaps a trace of better material to fit a certain price. The smell is frequently disguised,

but a gluey appearance is against it with the careful buyer. The home-made article, used by some, is simply fat oil, produced in several ways, the most familiar being the adding of raw oil to dry red lead and allowing it to stand in a warm place for some weeks, the oil coming to the top and being then in a thickened condition.

Cleaning Paint Pots and Cups.

A very good plan for cleaning paint pots and cans, particularly small articles, is to have a pot of oil on the stove, and let it become quite hot, though not boiling, then place the vessels that are to be cleaned in the oil, which in a little time will soften up the old paint, and then it may be scraped off, the paint being added to the oil for straining and using for paint.

How to Use Paint and Varnish Remover.

It is rather costly, and one may easily waste it in not knowing how to save. First, coat the surface all over, not a little patch, but the entire surface. Let it remain on for some time, then try it; if the stuff is well loosened up, scrape it off. If not, do not scrape, but give it another coat. In this way you will finally have the entire coating of old stuff loose, when it may easily be removed entire. By doing little patches and not letting the remover have time to get at the bottom of things, you simply waste the material. Keep the can containing the remover well closed, for it is very volatile, escaping readily. These removers act slowly, and cannot eat at once through several old coats of paint or varnish; if the latter were of recent formation it would at once curl up, and then be easily scraped or even wiped off. Use a wire brush where you cannot readily use a scraper, after applying the remover.



A House White-Leaded Is a House Well Painted

It is very important that you give much thought to the painting of that house you are planning.

Paint is the protection you can give your house against the wear of time and weather. It is the only insurance you can get against these two promoters of decay and deterioration.

It depends upon the paint you use on your house as to just how much protection you are going to give that house. Poor paint gives poor protection and, inversely, good paint gives good protection.

There is one way that you can be absolutely sure of obtaining paint that will produce perfect protection for your property—real protection that will stand the assaults of time and weather and add years to the life of your house—and that is to have your painter use pure white lead and pure linseed oil paint.

See that the white lead is Dutch Boy Painter white lead—then you will be sure the white lead is absolutely pure.

Any tint, any shade, any finish.

For exterior and interior use.

Look for the Dutch Boy Painter on the keg.

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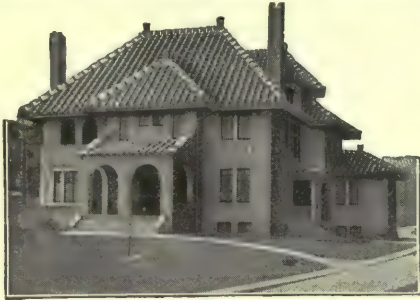
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Works Wonders in Beautifying Home!



For Simplest and Grandest Homes

CHARMING Moorish beauty and dignity of appearance of Metal Spanish Tile gives an air of distinction to the home graced by this wonderful new and practically indestructible roofing.

It has taken home builders of America by storm, for it is the modernization of the wonderfully beautiful roofs of historic Spanish edifices.

The art of making this roofing, left behind by fleeing Moors driven out of Spain centuries ago, until 1910 could not be made practical for the modern home, despite its alluring beauties.

After years of experiment, we have hit the solution. That is why today we are able to offer American homes the amazing attractiveness of

Metal Spanish Tile Roofing

Its scores of vital, practical advantages cost no more than common roofing, yet mean tremendous economy—it needs no repairs and outlasts several ordinary roofs because of its practically indestructible metal construction.

It is absolutely wind, weather, storm, fire and lightning proof.

Easy to apply. No soldering, no special tools—any ordinary mechanic can apply it. Interlocking system by which tiles dovetail into each other makes the roof absolutely water tight and provides for expansion and contraction perfectly—summer and winter. It is guaranteed non-breakable.

HOMEBUILDERS—Simply send us today the dimensions of your building and we will tell you by return mail exact cost of all material. Our new 1910 book on beautifying the modern American home by use of **Metal Spanish Tile** is yours for the asking. A postal will bring it. Address

The Edwards Manufacturing Co.

The Largest Makers of Steel Roofing
and Metal Shingles in the World

520-540 Culvert St.

Cincinnati, Ohio

Make a forward and backward movement with the brush. After the remover clean up with benzine and a rag; but as this cuts rather poorly, better add a little benzol to the benzine, which will cause the fluid to cut better; or use wood alcohol. When removing old stuff from hardwood work do not get down into the filler; and to avoid this, as soon as the surface coats are softened scrape them away and wipe up with a rag wet with alcohol. If the remover gets at the filler it will remain there and injure the subsequent finish. If it gets into the filler apply more and get out the old filler and fill anew.

Raising a Ladder.

When you raise a ladder, do not raise it with one leg alone resting on the ground, but see that both legs are resting there. This will prevent strain on the ladder, which in turn causes the rounds to become loose. Also, in taking the ladder down, be careful and do not take it down on a strain, remembering that there is a right and a wrong way for doing even so simple a thing as this.

Coloring Paint in the Pot.

When you want to color or tint a pot of paint do not add the color direct from the can, but first thin it up a little with turpentine, or benzine, which is just as good for the purpose and much cheaper. It is also a clever idea to thin up some color and place it in a bottle or other suitable vessel, and have it on the job, ready to add to paint if needed. Another way to add color to paint, when mixing a batch, is to add the color to the stiff lead, direct from the color can, then work this up into the paste. A good way also for adding driers.

Free-Hand Relief Material.

Free-hand relief stuff may be made from one pound of plaster of Paris, four ounces of dry white lead and two teaspoonfuls of baking soda. Mix to a paste with cold water and fill at once into the bulb. The bicarbonate of soda prevents the mixture from settling too soon. If it is desired to have it colored, then add some dry color to the dry plaster, and if bronze is wanted then dust some on while the stuff is still wet.

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Attractive

Home

With Your Own Individual Ideas as the Key
Note of the Design



OUR \$5.00 SKETCH OFFER

On receipt of \$5.00 and a rough diagram or description of your own ideas we will make a special study of your requirements and prepare the first and second floor plans accurately laid out to a scale with a picture of the exterior of the house as it would appear when completed, advising you of the additional charge for Complete Working Drawings, Specifications, Etc., which will be as low as is consistent with the labor involved. This offer applies to residences only costing not over \$5,000 and is made simply to demonstrate to you the value of competent services in interpreting and rendering practical your *original ideas* so that the home will be a complete success in every detail.

"There is no art to find the mind's construction in the face."
— Macbeth.

— BUT —

"The dwelling a man builds, reveals his personality, and through its halls and porticos runs the story of his life."

Now if the problem be given proper consideration, it means *time* and *time* is money. We would be speedily overwhelmed with requests if this were a *free* offer, consequently it is not free. No signed contract is asked for. We propose to make our work so pleasing and satisfactory as to demonstrate beyond a question that the *best* is certainly the *cheapest* for you. The fact that *houses* built from our designs *sell* advantageously when built proves they are *practical* and *desirable*. *This is an important matter should you wish to dispose of your property.*

REMEMBER:—It is not what *you pay* for plans that is the *real consideration*, but it is *what you get*. Why? Because upon your *plans* and especially the *details of construction* depends utterly the *proper* or *improper* expenditure of *all your building funds*. Quite important, is it not?

THE KEITH CO., Architects

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See that this trade-mark is on every can of varnish used in finishing your new home.

You can get other varnishes that cost less—but you will regret it if you use them.

For all floors and other wood-work insist upon

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Directions for Operating Round or Square Steam Boilers.

BEFORE STARTING a fire in the boiler see that the gauge glass is half full of water or up to the water line, also open the lower try cock and see that it contains water. The gauge glass should always be about half full of water when the apparatus is in operation, and should the water by any means get below the gauge glass the fire should be drawn and the apparatus allowed to cool down before the water is turned on. If the water is attended to at the same time as the fire all trouble will be obviated.

To start the fire, first close the check damper in smokebox, then see that the direct damper in the smoke pipe is open.

Open the draft door in ashpit sufficiently to get a good draft. Fill the firepot full of dry kindling wood and when burning well, put on sufficient coal to cover the wood. As the wood continues to burn and the coal is fully ignited, fill the firepot with coal. The damper regulator should then be adjusted so that the draft door in the ashpit and the check damper in the smoke box are closed, the damper regulator lever level with no slack in either chain. The operation of the boiler can then be controlled by the weight on the lever.

Open the feed door slide to supply air for perfect combustion. The feed door should not be opened to regulate the temperature: this can be better accomplished by the use of the dampers, with more satisfactory results and greater economy of fuel. To "keep" fire, the draft dampers must be regulated to suit the draft of chimney; no rule can be laid down in this matter, as no two chimneys draw alike; consequently each apparatus must be regulated as experience teaches and the requirements call for.

When it is desirable to check the fire and prevent the generating of steam, the chain can be unhooked from the damper in ashpit door, or the weights removed from the damper regulator.

With the water base square sectional boiler only, a direct draft damper is provided; it should be opened when first starting the fire or when the fire is low and is required to be raised quickly, at all other times it should be kept closed to prevent wasting fuel.

The fire should have attention during extremely cold weather at least three times a day. In moderate weather twice a day will be sufficient. This should be done early in the morning and late at night. To obtain good results the fire should be kept clean and perfectly free from ashes and clinkers. Keep the firepot full of coal and the grate clear of ashes. In the morning after the fire has been cleaned, put on only enough coal to cover the fire. When this is burning freely, put on sufficient coal to fill the firepot. Remove the ashes daily from the ashpit to avoid burning out the grates.

The clean-out doors on the front of the boiler above the feed door should be opened as often as necessary, to clean off any deposit which might form on the sections. A cleaning brush is furnished with the boiler and the surfaces should be cleaned off at least once a week when the boiler is in use, or oftener, depending upon the quality of the fuel used. At all other times the clean-out doors should be kept closed.

Occasionally lift the safety valve to see that it opens easily.

Should all the water get out of the boiler, first dump the fire, open the fire door and let the boiler cool off, before refilling. If the apparatus is to be left without fire in cold weather, draw all the water off, to avoid freezing.

A Little Boiler That Does the Work of a Big One

Because of its perfect construction and improved design, the "RICHMOND" Round Sectional Boiler for heating homes either by steam or hot water saves fuel and saves feeding—lessens not only the *expense* but the *labor* of heating the home.

With this heating system you get all the advantages in the way of greatest fuel economy and the constant, every-day efficiency of steam or hot water heating at no greater cost than is required to install a hot air heating plant with its attendant big fuel consumption and uneven, hard-to-control heat-giving power.

This small boiler, by reason of its economy, places steam or hot water heat within the easy reach of any home owner, whether the house be new or old.

"RICHMOND" Boilers --- Radiators

Write for this Book

If you are interested in heating and building large or small, write us. Ask for catalog 323. Learn for yourself about this perfect system which is so economical of fuel that it saves its own cost and pays its own maintenance.

Address in the West

Cameron Schroth Cameron Co.

Western Distributors for
RICHMOND Boilers and Radiators

323 Michigan Street
Chicago

"RICHMOND" Bath Tubs—Lavatories—Sinks

If you are about to build, investigate, too, the "RICHMOND" line of enameled ware. Everything in enameled ware, from kitchen sinks to

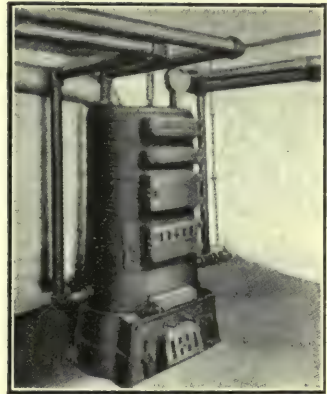
bath tubs, which bears the name "RICHMOND" is the best that can be made, less expensive in the beginning and in the end.

THE McCRUM-HOWELL Co.

103 Park Ave.

New York

Two factories at Uniontown, Pa.—One at Norwich, Conn.—One at Racine, Wis.



"In this boiler the sections run CROSSWISE instead of up and down.

The bottom section, which forms the ash-pit, is of special heavy construction made in one piece with every provision for expansion, and no possibility of breaking.

Corrugated Fire-Pot

The second section is the firepot, which has an ingeniously corrugated inner edge giving additional heating service and preventing the deadening of the coal at the edge of the fire.

The top sections, in which the water is heated, are a triumph in boiler construction.

The gases are carried up from the firepot in combustion through a series of round openings and overhanging arms in these top sections. They are carried upward until they reach a deflecting section which sends the flames down and back again to do more work.

All the Heat Utilized

When the burning gases finally reach the smoke box they find a new kind of check damper, which automatically prevents the escape of the heated gases into the smoke box until they have done their full work.

By actual test one small size boiler with this check-draft attachment will do as much work more economically than a larger size would without it.

The grate bars are of a superior triangle construction so arranged that part or all of the grate can be shaken as desired.

The firepot has the clinker door at the grate line so that clinkers may be readily reached with the slicing bar.

Self-Cleaning Surface

The firepot and a large proportion of the boiler above it is self-cleaning, while ample provision is made for cleaning other parts of the boiler by large clean-out doors without lowering the fire and interfering with the heating of the building.

HEATING AND PLUMBING—Continued

The water need not be drawn off from the apparatus during the summer months, and it is not necessary to renew the water in an apparatus oftener than once a year; the water should be drawn off and the apparatus refilled with fresh water just before starting the fire in the fall.

See that the boiler has a separate flue and a good draft and at the beginning of

each season have the smoke pipe cleaned and put in good order.

Use coal of good quality. As a rule stove size coal will give better results than any other.

Have both supply and return valves on the radiators either wide open or tightly closed. If partially open the radiators will draw the water from the heater. If compression air valves are used open them when the radiators are filling with steam, to expel the air, and close them when the air is liberated.

To obtain best results, use good automatic air valves.

A little time devoted to understanding the working of this apparatus will amply repay for the trouble, and when once understood can be run with little trouble or attention.

Practical Points for Plumbing Systems.

I come now to some more specific advice, contained in the following maxims:

Each building should have a separate connection with the street sewer. Large buildings may require several connections, and these are better than one pipe of a very large size.

All the drain, soil, waste, and vent pipes within the building, and up to a point five feet outside, should be of heavy cast-iron pipe, with lead-caulked joints, or of galvanized screw jointed pipe with recessed drainage fittings. No earthenware or tile drains should be allowed within the building.

All pipe conduits for sewage should be constructed air and water tight, to prevent leakage of sewage and of sewer air.

All the horizontal and vertical pipes should be carried as straight as possible. Offsets on vertical vent-lines should be made under 45 degrees.

On horizontal lines use Y branches, not tees, for junctions or connections.

All the pipe conduits, traps, cleanouts, as well as the fixtures, should be kept exposed and easily accessible for inspection or repairs.

All soil and vent pipes should be extended the full size to the roof, or even enlarged at the roof, to prevent closing of the pipes by hoar frost in cold climates. No pipe above the roof should be less than 4 inches.

\$38.95 BUYS THIS COMPLETE BATHROOM OUTFIT



MODERN BATHROOM FOR EVERY HOME

THE LUXURIES OF MODERN PLUMBING AT HALF THE ORDINARY COST.

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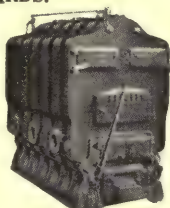
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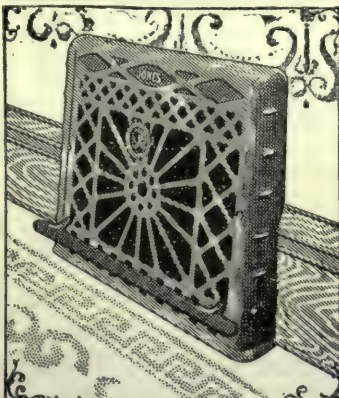
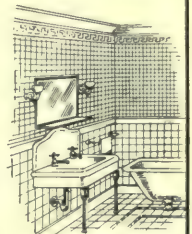
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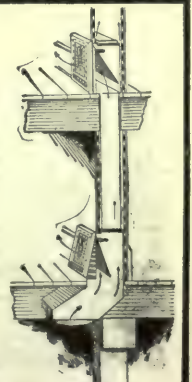
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ON HOME BUILDING

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The Journal of Modern Construction

MAX L. KEITH, Publisher,

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Contents for March

	PAGE
PERGOLA ADORNMENT OF HOME GROUNDS	165
A COLONIAL SURVIVAL	173
BAMBOO AS A BUILDING MATERIAL	176
PROBLEMS IN CONCRETE	178
A HOME-MADE LAWN ROLLER	182
NOTES ON GARDENING	184
HOW TO PROTECT STRUCTURAL METALS	186
DESIGNS FOR THE HOME-BUILDER	188

DEPARTMENTS

DECORATION AND FURNISHING	202
ANSWERS TO QUESTIONS ON INTERIOR DECORATION	208
HOUSEHOLD ECONOMICS	214
TABLE CHAT	218
CEMENT	222
PAINTING AND FINISHING	226
QUESTIONS ANSWERED ON CONSTRUCTION	230
HEATING AND PLUMBING	234
SPLINTERS AND SHAVINGS	238
GLIMPSES OF BOOKS	240

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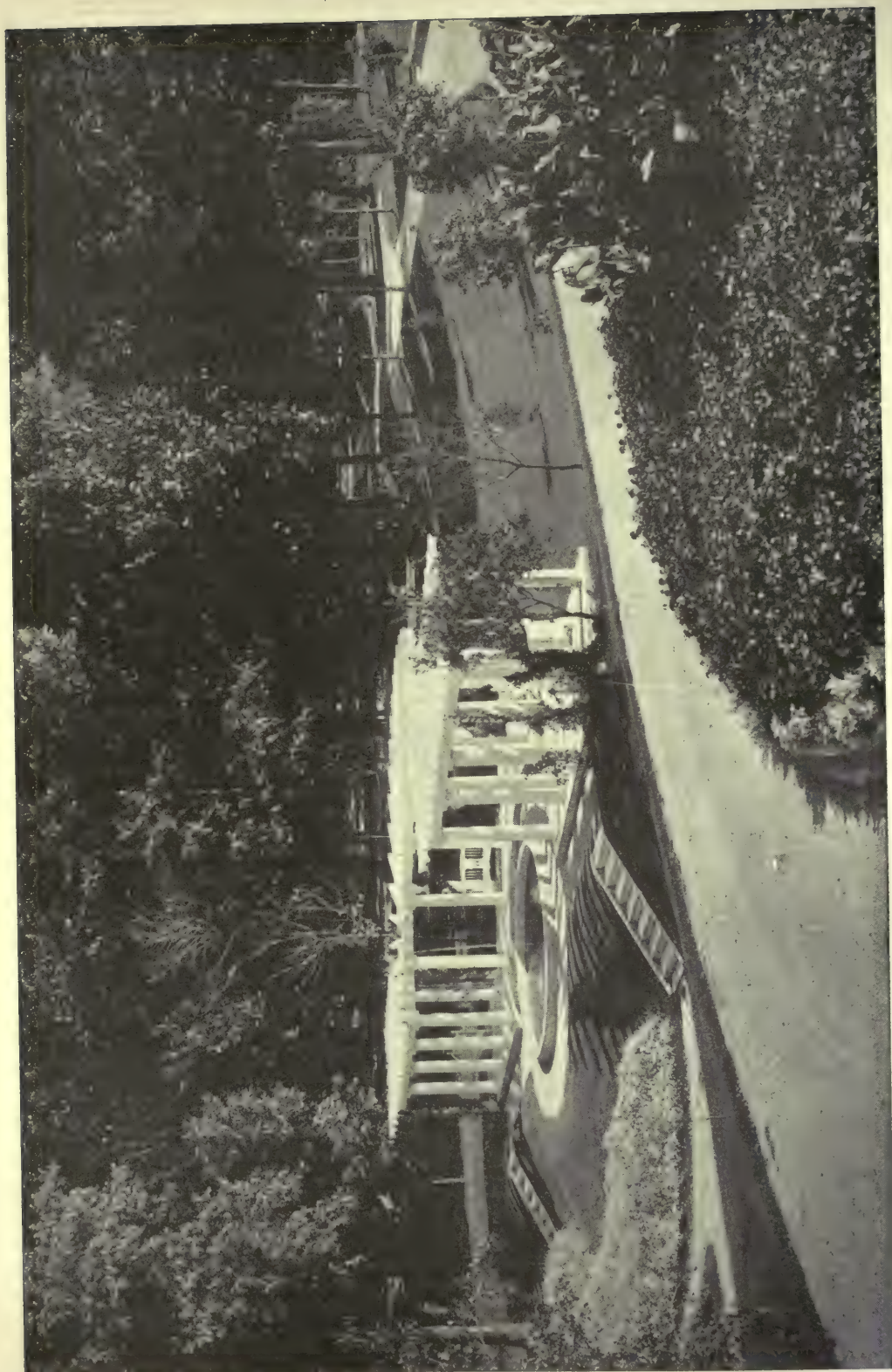
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A BEAUTIFUL COMPOSITION, IN A MAGNIFICENT SETTING.

KEITH'S MAGAZINE

Vol. XXIII

MARCH, 1910

No. 3

Pergola Adornment of Home Grounds

By Phidias Pecksniff, Architect



A PERGOLA, HOUSE AND GARDENS.

IS it that he is too busy, too commercial, or lacking in artistic perception, that the American does so little for his home grounds? To many, a well kept lawn is considered sufficient and no attempt is made to produce anything more. A house must be beautiful indeed, that is sufficient unto itself, without flowers or shrubbery.

There is always a harsh line at the base, the house rises too abruptly from the lawn, the lines are too straight, clear cut and well defined, to be artistic.

The softening influence of plants and blossoms is needed, with harsh corners rounded in the planting to give the house a proper setting. When this is attempted

it is often poorly done, with an utter lack of judgment as to first principles. Too often if shrubs are planted, the arrangement seems to provide for the harvesting of some crop. To plant shrubbery on the lines of an apple orchard is, of course, a mistake of the worst kind. Good judgment demands that such things be planted in mass effects, as back grounds for other and smaller plants, or as a screen. In this latter position the pergola may be considered the frame or support, the shrubbery and vines, the decorations and festoons covering it.

The uses of the pergola are not generally and properly understood. It may consist of a few columns with overhead beams attached to the house, arranged

to provide a leafy screen on the sunny side of some room, or as is often the case, it is set apart from the house as a small shady nook for quiet afternoon seclusion. Where the grounds are ample the pergola may be used with good effect as a covered way over the path leading up from the side gate to the house. Assuming that such an arrangement presented a broadside view from the principal approach, this would be a very effective addition to the appearance as a whole. A pergola often forms a connecting link between buildings.

Three detached houses were built with grounds occupying the whole length of a city block. The families were related and connecting pergolas were built to give privacy to the walks between the houses. The effect of the gleaming white columns and clinging vines and greenery, was especially fine from the road. It sometimes happens that the surroundings are very objectionable in appearance, at least in one direction. Under these conditions a carefully located pergola with the addition of trees and shrubbery, will do much to screen, and hide from view.

A large pergola fits properly into the scheme of a beautiful formal garden. From the house terrace, steps may lead down to a slightly sunken garden, geometrically arranged with winding walks and classic garden furniture. A lily pond, placed to reflect the blue sky, and white columned pergola, becomes a gem in the picture. In an open space before the pergola, a sun dial may be erected like an altar, giving a sense of classic purity and cultured restfulness.

The materials employed in the construction of the pergola are largely dictated by the requirements and environment. A house of classic design should have its pergola in keeping. Even though it has no direct connection with the house, the details of both should be in harmony. To produce a really fine ef-

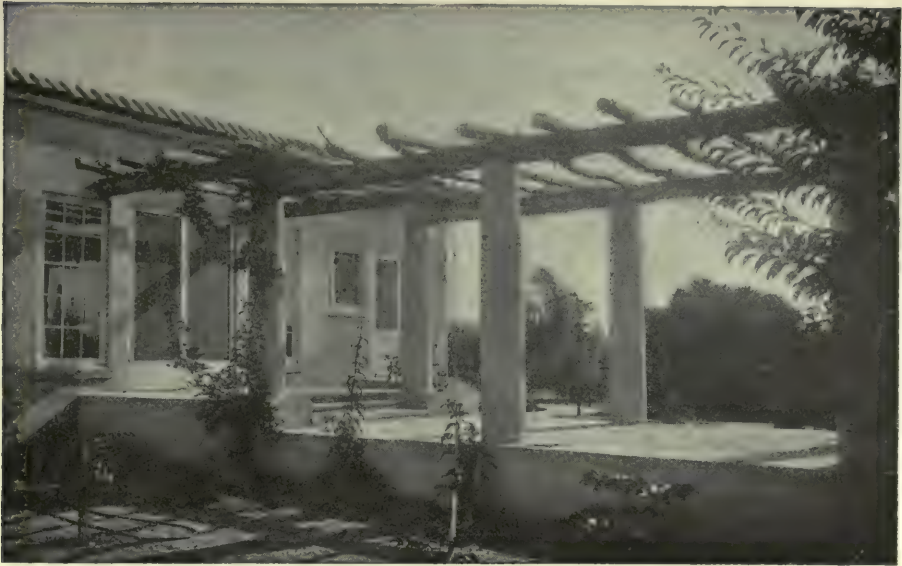
fect the grounds, garden furniture and all structures erected should be carefully studied in their mutual relation, that no inharmonious note be introduced. It is a matter of regret that an estate possessing some very good marble seats, in the ancient style, should harbor wooden seats built of slats around the trees. Yet this condition exists in several places locally.

When classic columns are used in the pergola, the Doric order seems to be given the preference, no doubt because of the simplicity and beauty of its lines. The more ornate orders may be used for the more important portions of the house, allowing the pergola to be of simple design. A wooden house should have its pergola also of wood, but the foundations for the columns should be of stone or concrete and extend below frost. It is possible that on well drained soil, free from clay, no difficulty would arise if the footing stone was simply laid in position on the earth as leveled off.

Columns not properly set may be forced out of line by the action of the frost, distorting the whole pergola.

White pine, white cedar, cypress, red cedar, yellow poplar and fir are the most satisfactory woods for pergola construction. A great many columns are turned from the solid log, and a hole three inches in diameter bored through its entire length to prevent checking and splitting, but this method is not always successful. The presence of sap in the round log from which the column is turned is a factor that hastens decay. For better construction, the modern column is built up of staves, the joints of which are of interlocking design, making it impossible for them to come apart. The stock used should be not less than two inches thick, and can be readily inspected in all its parts before putting together, affording every opportunity for good results, in the finished product.

A Doric column of white cedar, 10



A RUSTIC EFFECT OF POSTS AND POLES.



OF CLASSIC BEAUTY.



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A PERGOLA ON LONG ISLAND, N. Y.

inches in diameter and 7 feet 6 inches in length will cost about \$6.25 each, or if fluted, 20 per cent additional. This is but little in excess of what the cost would be for similar columns, made from the solid log. Lintels of 2 by 8 stuff, rafters of 2 by 6, three feet on centers and lattice of 1 by 2 will cost from \$2.50 to \$2.75 per running foot.

The end columns should be anchored by a rod passing through each column from the lintel and firmly bedded in the concrete foundation. These rods in 9 foot lengths cost 75 cents to one dollar each.

Concrete foundation piers, 16 inches square and carried 3 feet into the ground cost about \$2.50 each.

The cost of erection of a pergola, upon the piers can be obtained locally.

A cheaper method of securing a foundation is to use short posts of either locust, cedar, or chestnut, set three feet into the ground and projecting eighteen

inches above. The tops are dressed to allow the columns to slip over after which they are secured by nailing.

The rustic pergola is very picturesque, but is used with a house of architectural style in keeping. Shingle and cobblestone exteriors allow a free treatment of materials for the pergola.

Rough sawn timber or logs and cut poles may be employed with good effects.

Unless the wood possesses a strong tenacious bark, it had better be removed when the pergola is built. Bark that is continually sloughing off, is a source of annoyance and requires continual attention to keep the immediate vicinity clean and neat. Sawn timbers may have ends cut in grotesque outlines, to suit the general character of the surroundings.

Much less liberty should be taken with a rafter end over a classic column, only outlines being used that are in accord with the order of architecture employed.



A PERGOLA BARE AND BLEAK WITHOUT COVERING.

Where posts and poles are used they may be arranged in constructive design more varied than with classic columns and lintel and the rafter effects may be made rambling, by the use of crooked poles.

Cement exteriors used for modern houses make it a logical material in the construction of the pergola. The column may be either solid, or of expanded metal stretched on a wood frame and cemented over.

Architects often omit the finer mouldings from cement columns used for this

purpose and increase the diameter, producing a very substantial appearance, which is hardly justified by what is to be carried.

The diameters of strictly classic columns bear a certain fixed relation to their height for each order of architecture, and it is well to maintain these proportions, even though the structure does not carry the weight intended for the complete order.

Rough masonry piers of stone laid with wide white joints are sometimes very



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AN EFFECTIVE DESIGN.



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A SIMPLE EFFECT IN CITY ENVIRONMENT.

effectively used instead of columns and cost for a pier 18 inches square and 8 feet high is about \$10.00. A brick pier 12 inches square of equal height will cost \$9.00, and if 16 inches square \$11.00. A brick pier 20 inches square costs \$13.00. The stone or concrete foundation is included in each case.

These prices might be reduced somewhat in rural communities.

If the nature of the materials used for the piers or columns does not afford a natural foothold for vines, wires should be arranged to support them, until they have grown sufficiently to gain the rafters.

The question of planting about a pergola is of first importance. It is not enough that the pergola be on good lines and of proper architectural detail, it must be covered to fulfil its mission. The planting about it should be intelligently done, by someone who knows just what to use, to produce the best results. Not only should the vines used be attractive and of great covering capacity but they should be selected with a view to climatic conditions. No matter how luxuriantly a plant grows, during the warm months of summer, it is of no service if it will not live through the winter.

Another thing to consider is the exposure, for even a pergola standing in the open, may be so situated that the sun cannot reach plants equally well on all sides of it. Plants for shady places must

be selected with great care, to avoid having naked columns and unhealthy undeveloped vines. Some vines, by reason of the color of their bark, or the tenacity with which the berries cling, are desirable because of the effect they produce in winter. Residents of the northern states have to consider the plant for the whole year, to get even a little brightness in the winter.

The relation of the annuals to the perennials must be considered in the planting about the pergola.

Some annuals are best displayed against certain kinds of vines, so it is important that they be well chosen. As the hardy vines and hardy perennial flowers are so much more satisfactory, especially so with the beginner, more attention is given to them at this time.

A few of the best hardy vines to use for pergolas are the following: *Ampelopsis*, *Quinquifolia*, which requires training up, but is very hardy. *Ampelopsis Engelmanni*, the best for concrete pergolas, as it clings to stone or concrete and requires no tying up. *Celastrus Scandens*, a twining vine, having yellow flowers, followed by clusters of orange berries, which hang on all winter, and add to the winter scenery. The clusters of berries make pleasing decorations for the interior of one's home in winter.

Aristolochia Sipo, a very good climber, producing light green foliage; 10 to 12 inches in diameter, and curious pipe



Courtesy of B. Terrell Hoyt Landscape Architect
A PERGOLA AND SUNDIAL.



THE END OF AN EXPOSITION BUILDING.

shaped flowers. The scarlet Trumpet Vine, also a very good climber, producing reddish trumpet like flowers nearly all summer and these are followed by beautiful berries which make them very attractive.

There are a number of other vines sometimes used, including the family of Clematis, most of which need very favorable sunny locations, however, and the proper covering in winter, although the Clematis Virginia is very hardy and a quite rapid grower and does not need as much care. Those who wish to try some of the other Clematis, such as the Paniculata, may probably have success, but the Jackmanni and Henrii and other large flowering varieties, should be used carefully to start with until one sees how they winter. The Matrimony Vine is used quite extensively. The wild grape vine and also the tame grape, and still another, or a cross between the wild and tame, called the Beta Grape, the fruit of which is fine for jelly.

A few of the hardy perennial flowers that are used in planting about pergolas with the view of giving a succession of the bloom are as follows: Achillea, the Pearl, small white double flowers; Hardy Aster; Bleeding Heart, an old favorite; Campanula Coreopsis, yellow flowers; Shasta Daisy, white petals; Delphinium, all shades of blue; Dianthus or hardy pink; Gypsophila or Baby's Breath, fine delicate white flower; Hemerocallis Lily;

Lily of the Valley; Platycodon; Sedum; Dianthus; Peonies in color; Hardy Phlox, any color; Iris German, Siberian, Oriental and Japanese, in many beautiful colors and combinations. Out of the above selection one can pick the varieties producing the desired colors of flowers and by getting them properly arranged in regard to height and general appearance the effect should be very pleasing.

It is evident that the proper design, placing and planting of a pergola is an important matter involving the services of a competent architectural designer, proper construction of the component parts and a landscape architect to adorn it upon completion.

The illustrations are selected with a view of showing pergolas of various types on large and small estates. The frontis shows a beautiful composition in a magnificent setting of large trees, spacious lawn and winding roadway. The vines have not yet reached their fullest growth, which gives the white pergola somewhat more prominence than is desirable.

From other views a good idea may be obtained of the general appearance of the classic wooden columns. These were made with the interlocking joints described that are so necessary in good construction. The rustic pergola which may be built with materials afforded by the forest, is also shown as constructed by the owner.

The author is indebted to B. Terrell Hoyt, Landscape Architect, for suggestions as to planting.



Courtesy of Hartmann-Sanders Co.

SIMPLE BUT OF GOOD CONSTRUCTION.

A Colonial Survival

By E. A. Cummins

WE ARE all of us familiar with the main outlines of our colonial history, with the great tides of immigration, flowing in from various European centers, England, Sweden, Holland, so familiar that we take small account of the lesser streams of people that here and there found an entrance, beginning life in the new country and carrying it on somewhat withdrawn from the crowd.

One of these side issues was the settlement at Bethlehem, Pennsylvania, by the Moravians, in 1741. They were one of the many small sects which sprang up in Germany in the eighteenth century, protesting, by their attempt to return to the conditions of the primitive Church, against the materialism of the eighteenth century. Theirs was the first attempt at the communistic life in the New World and, unlike most of its successors, the community, diminished, indeed, and impoverished, has survived the changes of modern times. The town with its great church and its community houses is still a place of pilgrimage for lovers of the quaint and picturesque. The old arts are practised, the old customs ob-

served, the services and hymns of Count Zinzendorf and his band of followers still in use.

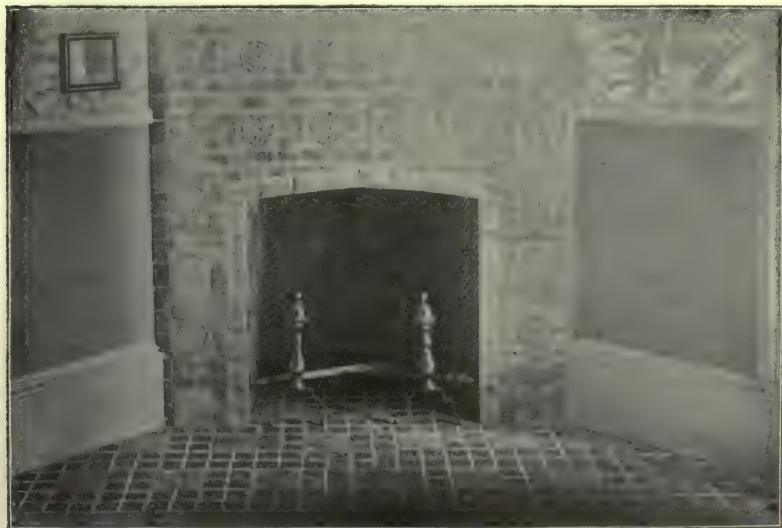
The Moravians came from the land of earthenware stoves, and brought with them the art of making tiles, and of the manufacture of various glazes. These processes have been handed down from one workman to another, until they have come into the hands of practical potters who, while retaining the old methods, have enlarged their scope, and have ransacked the whole field of ceramic art for artistic designs.

Beautiful as the Moravian tiles are, to the eye of an artist, in color, in surface, and in design, let no one think of them as the fine flower of the potter's art. They have not the mechanical perfection of the ordinary glazed tile of commerce, smooth to the touch and absolutely regular in outline. Nor is the design reproduced with painstaking accuracy, so that, in a hundred tiles, not one will vary a hair's breadth from its fellow. You will find that sort of thing in the Dutch tiles, just beginning to come into our market in available shape,

tiles which have many admirable qualities, and which are quite unexcelled for very many uses.

But the Moravian tiles carry upon their face the sign manual of the craftsman. If you value the touch of individuality, the distinction of the hand with the brain behind it, the Moravian tiles will appeal to you.

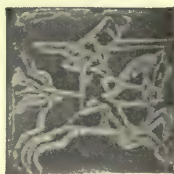
The surface of these tiles is some-



FIREPLACE FACING: "BIRDS OF TINTERN" AND LITTLE BRICKS.



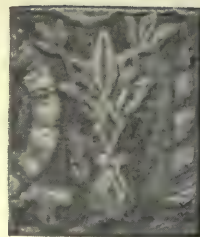
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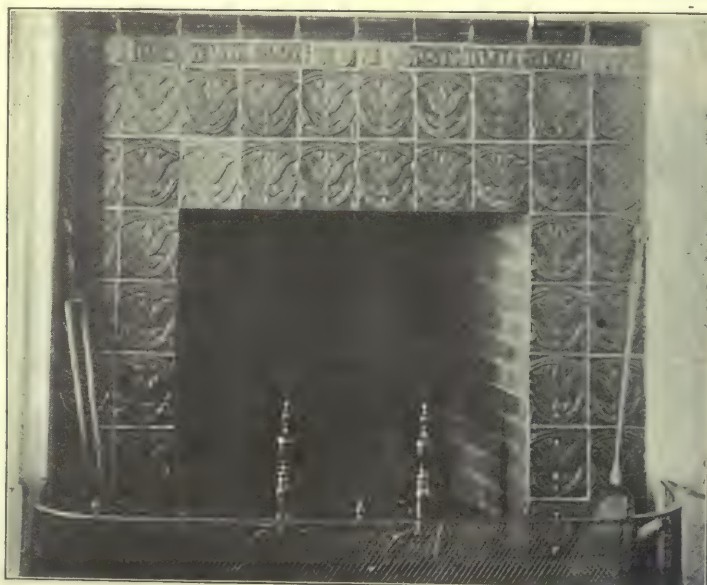
what rough, not unpleasantly so, but just rough enough to be characteristic, like the lines in a man's face, or the touch of silver in his hair. Some are wholly glazed, some unglazed; others have a glazed design against a rough ground; still others have the design cut in, intaglio fashion, either glazed or unglazed; still another sort has the pattern incised, its lines traced out in a color contrasting with the ground.

The colors are usually low-toned, but low tones of positive color. The color schemes are never washy. Often the coloring of the tile is modified by the use of a glaze which has a flush of red, giving a warm tone, unusual and charming. While the tiles are oftenest made in strong reds, yellows, blues and greens, they can be had in lighter colors, lemon yellow, cream white, buff, while almost any design can be had in unglazed white against a ground of light color, buff, green, blue, or lilac.

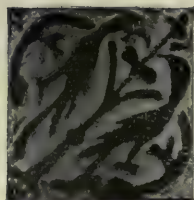
The most interesting thing about these tiles is the wide range of design. The sources of ornament vary from the primitive patterns brought over by the Moravians to copies of the intricate tracteries of the Moorish potters. Some claim a Persian or Byzantine origin, others have been copied from the mosaics at Ravenna, or from the tiled floors of

English abbeys. Half a dozen titles picked out at random give an idea of the range of choice: "The Birds of Tintern Abbey," "The Falconer of Gloucester," "The Star of Granada," "A Della Robbia Cherub Border," "Spanish Cross, from Toledo," "Terra, from a German Stove Tile."

The authorities of the pottery advise the use of these decorated tiles in connection with plain-surfaced tiles, red or buff, the plain surface acting as a foil to the elaborate design. This method materially reduces the cost of a tiled facing or flooring. Some of the tiles are of large size, as for instance the arrangement from S. Apolinaris, at Ravenna, measuring 11x14 inches. Two of these used in connection



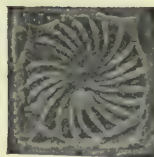
FIREPLACE: ARRANGEMENT OF TILES IN TULIP PATTERN, WITH MOTTO "POST TENEBRAS LUX."



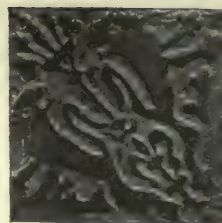
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with plain tiles are ample for a fireplace, and the same is true of many other of the larger tiles. Some of them are sufficiently interesting and beautiful to be used as pictures, framed in a band of dark wood.

The special significance of this form of ceramic art, for our readers, is owing to the fact of its harmony with and adjustment of concrete building. Wall mosaics are made as well as tiles, and these are imbedded in a flat surface of wall, or fill in the triangular spaces between arches, with admirable effect. In a clubhouse in Philadelphia heavy, square concrete supports have been enriched by tiles of strong color applied so as to form a capital, a band of tiles being inserted in a groove lower down. In another instance the concrete pillar was given a Byzantine form, the capital being faced with tiles, glazed and unglazed, flat and in relief. With this use of the tiles, the concrete is left in exactly the state in

which it is when the forms are removed, as being the most effective setting for the tiles.

Like some other things very beautiful and artistic, these tiles are not to be used unadvisedly. They need an environment of their own, oak rather than mahogany, the Craftsman style rather than the Colonial, clear outlines and strong colors. With these limitations, they are altogether desirable, a great acquisition to the ranks of things beautiful and sincere, whose number increases with every year.

LIST OF CUTS OF MORAVIAN TILES.

1. A Spanish Border.
2. The Knight of Nuremberg.
3. The Birds of Bedwyn Magna.
4. Flower Pot and Tulip.
5. The Birds of Tintern Abbey.
6. The Swastika of Persepolis.
7. The Wheel of Castle Acre.
8. The Lions of Bedwyn Magna.



A PLATE-RAIL AND CONTENTS.



FILIPINO HOUSE OF NIPA LEAVES AND BAMBOO, PUT TOGETHER WITH RATTAN STRINGS AND WOODEN SPIKES.

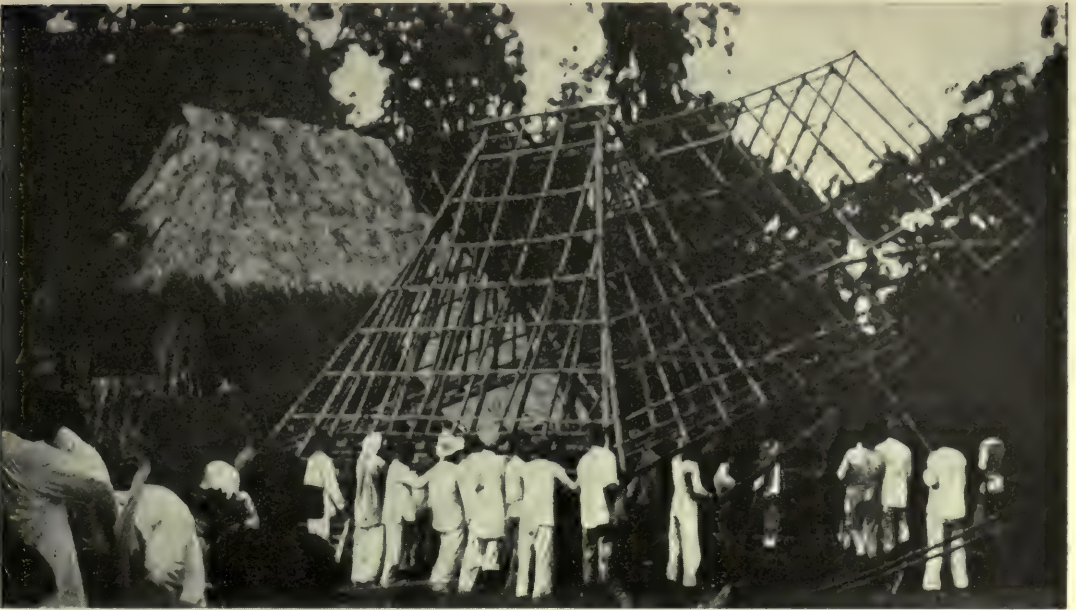
Bamboo as a Building Material

By Monroe Woolley

WHAT a Filipino, or a Jap for that matter, cannot do with bamboo in construction is not worth recording. When a Filipino wishes to build anything from a pig-pen to a house or bridge he simply straps on his bolo, takes to the woods, and brings back a lot of bamboo poles. Herein is about all the material he requires. The bolo is also the only tool he needs. It is a long, heavy knife; a half-breed butcher knife and axe. For supports, joists, and rafters he uses the round, straight poles as they are taken from the thicket. For boards he splits the poles open and flattens them out. For nails he uses small wooden pins made from pieces of bamboo, or tough rattan strings secured by stripping the bark off the pole. For a floor he cuts strips of bamboo, usually an eighth of an inch thick and one inch wide, from the poles. These he weaves with rattan strings to the floor timbers, making a strong but somewhat springy floor. Bamboo floors are the cleanest floors in the world but owing to their perforated surface are hardly adaptable to

cold climates. The surface, having a glossy, enameled, natural finish, will not cause dirt to adhere and the cracks permit all dust and dirt to drop through to the ground below. In photograph number one is shown the frame work of a roof, made by lacing bamboo poles together, being raised preparatory to placing supports under it. This is thatched over with dry nipa leaves which make a good substitute for shingles. Steps to enter the house, which generally sits from four to six feet off the ground to avoid dampness, are made in the form of a bamboo ladder.

Streams are frequently bridged with nothing but bamboo, not a nail, aside from wooden pins, being used. The supports, railings, spans, etc., are made of the solid poles; the floor is made of bamboo lath interlaced so strongly that it will bear any number of pedestrians, and, sometimes, a team of mules and an army wagon. While the bridge shown in the picture is scarcely thirty feet in length, the writer has seen bridges of this material from fifty to one hundred feet long. The poorer class of



NATIVES RAISING THE FRAME ROOF OF A BAMBOO HOUSE.

Filipinos make their furniture of bamboo and rattan, their cooking utensils of baked clay, and as they eat from banana leaves used as dishes, and get their food from the

streams and forests, their wants are easily supplied. Poor Richard's claim that nature's wants are few fits the islanders remarkably well.



A BAMBOO BRIDGE SPANNING A PHILIPPINE CREEK.

Problems in Concrete

By H. Edward Walker

(Continued from the February Number)



A CLUBHOUSE OF CEMENT.

ARTICLE XV.

THE uses to which concrete can be put seem numberless. It is so ready to the hand in large or small quantities and requires so little labor to work it, that for ordinary purposes it seems to fill almost any situation. Among its uses, that require considerable skill, is as a new finish for old structures.

How often a rambling old house is seen, that was quite a pretentious dwelling in its day, but is now sadly out of date. A great many times the main lines

are excellent, but there is an overabundance of "ginger bread." Perhaps the house is very old and the siding has been painted so many times that it is impossible to ever get a good finished job again.

It may be that an addition is contemplated which must be built of more substantial materials. A case in point is that of a room used as a library. The house was of wood but the new room was to be fireproof, to protect a valuable collection of books and art curios. It was deemed inexpedient to

construct the walls of fireproof material and cover them externally with siding to correspond with the house. An architect was consulted and he began by taking careful measurements of the entire exterior of the house, from which to reproduce the elevations.

The house was in a semi-classic style, somewhat Italian in its outlines, with a large amount of jig-saw detail, so popular fifty years ago.

The elevations having been reproduced, the designer began to study them with a view to giving the house a cement finish and at the same time making the design more in harmony with modern ideas. This did not mean such radical changes that the house would be entirely different, for if the lines were originally founded on good principles, the lapse of time could not affect them. But the overabundance of heavy fantastic detail is a thing which can always be remedied with a good saw and an ax, and it is often surprising how a design gets constantly better, as the workman proceeds with the removal of this unnecessary junk.

Some very clumsy brackets at the corners of this house, under the cornice, were discarded and some flat sawn out work was covered up by the cement coat.

There were two balconies, including some balusters of good design. These were retained and the wood work scraped and repaired. Before applying the furring strips, on which to nail the expanded metal lath, all projections, such as the mouldings of string courses, were removed to allow the lath to pass over, keeping the same vertical plane. This was necessary except in such instances where it was desirable to have the course reproduced in cement. All windows and doors were given caps and sills of cement in keeping with the style. This was not difficult as the cement was applied a little thicker upon the lath and given a different surface from the general surface of the wall.

At the ground line was laid a block of cast cement all around the house, and the furring was carried over the old stone foundation wall to this block, that the cement coating might be continuous. The result of the completed work was

surprising. From being an old-time mansion, overloaded with ugly detail, it became a handsome cement structure, thoroughly up to date in appearance.

A good architect can do almost anything with one of these old houses, if not too much hampered by the ideas of the client. If good results are to be obtained the owner must realize this. It requires more skill to give a good appearance to an old structure than to obtain the same result when building new. For this reason the competent designer should have every chance given him to obtain a good result.

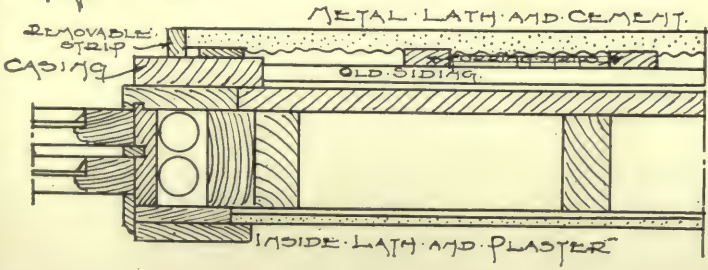
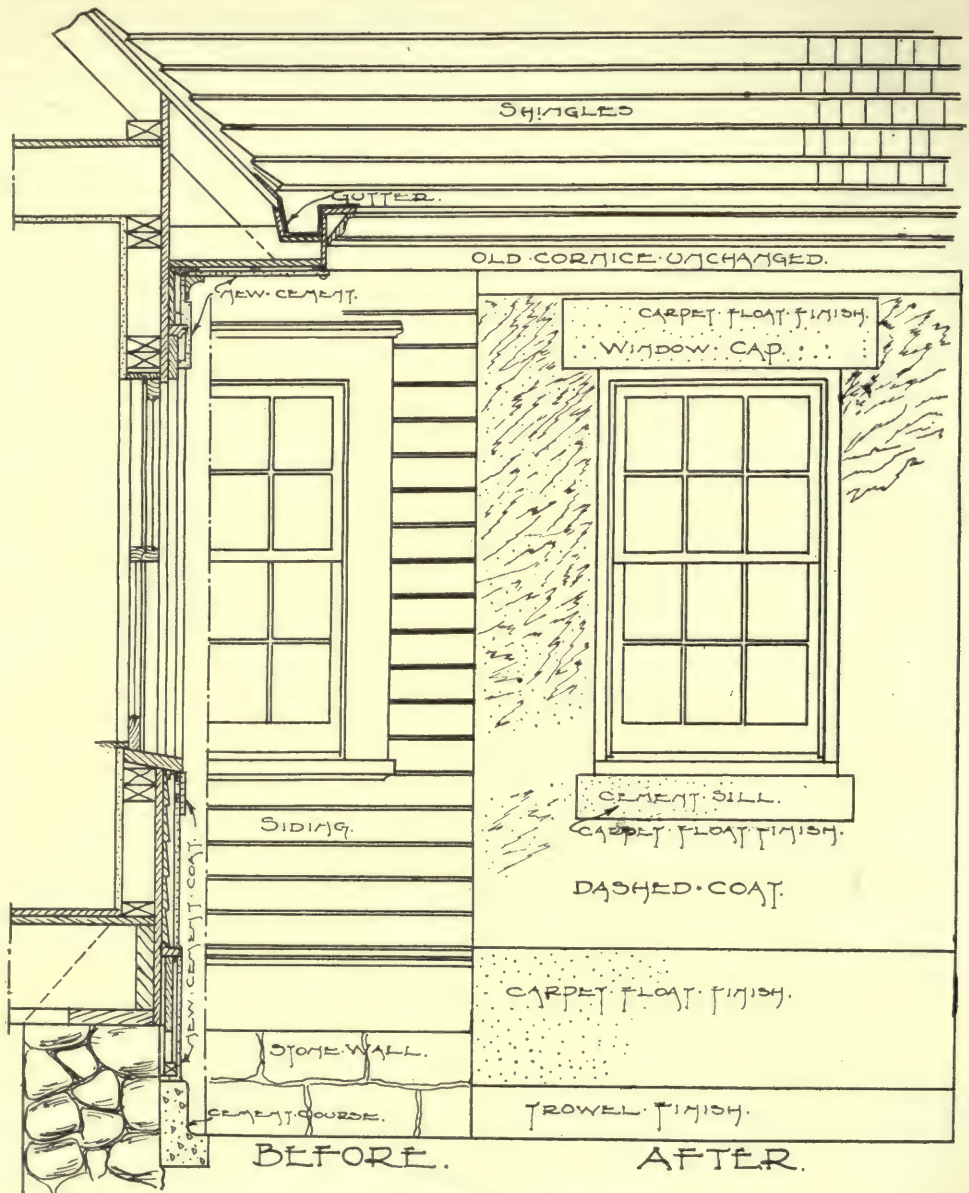
The illustration will give a good idea of how the cement is applied. At the bottom of the page is a horizontal section through the window box and house wall, cutting across the studding. The old siding is shown and the casing about the windows. The furring strips are usually $\frac{3}{4}$ inch by $1\frac{3}{4}$ inches and are spaced 8 inches on centers. The wood casing projects beyond the siding and the furring strip upon it must be thinner to keep the same even face of the lath without springing it out of line with the other furring strips.

A removable strip is secured to the casing, projecting equal to the thickness of the finished wall. This serves as a limiting strip, against which the cement is finished about openings.

The lath is secured to the furring strips and is stretched only enough to line it up properly. There should be no special amount of tension upon the expanded metal, when the plaster is in place.

Galvanized lath is best but in any case it should be thoroughly imbedded in the cement. Where it is necessary to make a projecting course, it may be necessary to put in special furring strips and cut the lath to fit over it. The window cap shown must be done in this way, unless the moulding over the old wood cap is removed.

The cement sill in this case is made by making an outline frame limiting the outlines of the sill and the center is then plastered full up to the face of the frame and finished as desired. When the limiting frame is removed it leaves a clear cut edge all around the sill, just as it would be in stone. It is well to provide for an undercut at the lower edge to form a



• CEMENT COATING
• OVER SIDING
• THE OLD HOUSE MADE
• TO LOOK LIKE NEW.

drip. The upper edge should be carefully worked up under the projection of the old wood sill, to make a durable and even upper line.

If it is possible to obtain a proper union between the masonry of the old foundation and the new concrete, it will be best to treat it in that way. If not, a cast cement course shall be carefully set at grade, as shown, to form a base above the snow line. The remainder of the old exposed wall can then be furred out, lathed and cemented over.

In no case should a new cement exterior appear above an old masonry wall. It does not appear homogeneous.

An ordinary box cornice is shown with the built-in gutter. The soffit or underside has been furred and lathed directly upon the finishing lumber without removing the mouldings. The finishing coat of cement upon this should be smoother than the body of the house in most cases. It should be a carpet float finish rather than a dashed coat.

A wooden moulding placed in the angle between the side wall and the soffit should be sanded and painted in harmony with the cement.

A section through the wall is shown and elevations of the sided wall and after its treatment with cement. The matter of finishing coats is largely one of preference, but it is well to give a roughness to the general body of the wall and have caps, sills and courses of smoother finish. A contrast obtained in this way will give the house tone and finish it would lack if kept all in one surface.

Porches and steps should receive special attention in remodeling an old house, that they appear in harmony with the new work. Many old houses suit their occupants admirably as to internal arrangement and there would be no question of anything different if it were not for the exterior. It is here that cement stucco comes to the aid of the family that has no wish to leave the old home, but would like it to make a better appearance.

It is well to keep in mind that the original style of the house is best retained, if possible.

Changes should be made carefully with a view of improving the existing outlines, rather than to make something entirely different. It will cost less to improve the old house on its own lines than to work it over in another style. However, if something very different is wanted, a good designer will be able to advise as to what can be done and the probable cost. If an old nondescript design can be changed without too much trouble to a fine appearing mission type, for example, it would be well to do it.

A feature which enters largely into the proposition is that of warmth. The old house may be very cold, with cracks in the plaster and openings due to the shrinking of its timbers. The foundation walls may be crumbling, letting in a lot of outside air which makes cold floors and feet seem the natural condition in winter. Examination of old back-plastering has shown that in many cases it was poorly done, full of cracks and often fallen from the lath entirely.

Overcoating the old house with cement will stop up all these cracks, keep out the wind and make it once more a comfortable habitation.

Properly cemented over the house should need no further attention.

The cement should be evenly applied that the finished work may have the right appearance.

Often, if done by unskilled mechanics, it is apparent where one day's work ended and the next began, but in competent hands the whole surface will be of one even tone and texture. As a foothold for vines nothing could be better, and a picturesque effect can be obtained greater than is possible on a sided wood house. Time would mellow such a building, making it more beautiful each year.

No paint is necessary, an item to be considered in favor of cement.

Suppose a house is fifty years old and has been painted twenty times at \$40 each time. That is equal to \$800 and this amount could have been saved if the cement had been applied in the first place. An overcoating of cement applied to the old home by one who knows how will produce a new effect at a trifling expense.

(To be continued)

A Home-Made Lawn Roller



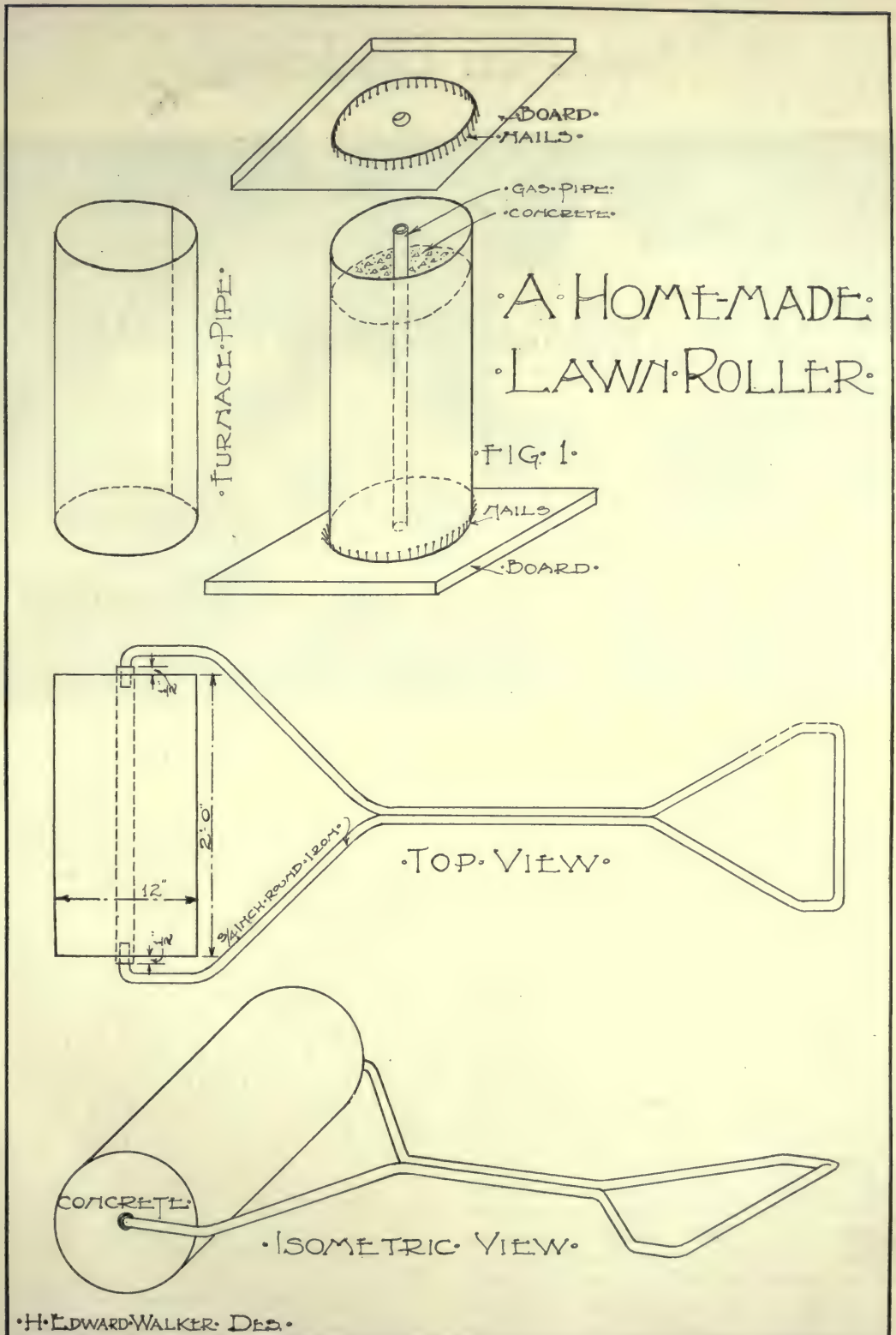
LAWN roller is a very useful implement about the home grounds. So many of our readers are completing new homes and will be confronted by an accumulation of brick-bats, lath, shingles, cuttings, etc., on which to grow grass, that a description of a lawn roller, made by the author, is deemed timely.

Among the things left by the mechanics was an odd length of 12-inch galvanized furnace pipe and some pieces of gas pipe. The furnace pipe was cut off evenly about two feet long. A circle was marked upon a board of the same diameter as the pipe and nails driven, just outside its circumference, slanting outward. In the center of the circle a hole one-half inch deep was bored, of the same diameter as the gas pipe. This prepared board formed the base upon which the furnace pipe rested, while it was being filled with concrete. A board exactly similar was prepared to fit over the top, all as shown in figure 1. The gas pipe was cut, with a hack saw, one inch longer than the furnace pipe. The concrete was then mixed, one part of Portland cement to two parts of clean sharp sand. The furnace pipe was placed on the board within the circle of nails, which prevented it from getting out of shape and fitted it perfectly. The gas pipe was inserted into the hole in the center of the board, thus coming up within the furnace pipe and projecting one-half inch above it. Enough concrete was now poured in to hold the gas pipe upright, then the upper board was placed in position, the gas pipe fitting into it, thus locating the gas pipe in the exact center of the furnace pipe. Removing the upper board, concrete was poured in and neatly troweled over at the top. Quantities of burned nails, pieces of tin, iron and stone were introduced into the concrete to give it weight and strength.

Any tendency of the gas pipe to get out of center was overcome by frequent

tests with the upper board, which readily relocated it in the soft concrete. Finally the upper board was placed in position and left until the concrete was thoroughly hardened. In this manner, a cylindrical mass of concrete was formed, encased in galvanized iron, with a gas pipe through the center projecting one-half inch at each end. The handle was made of round iron of a diameter suitable to be contained within the gas pipe. It was bent in the furnace and its shape gives it sufficient spring to hold it in position. A blacksmith would have charged about \$1.50 for it. The length is the same as the handle of the lawn mower. The diameter of the roller may be larger, but the relative size of the gas pipe and handle must be such that there is little friction or "play." A little grease should be used occasionally. If the galvanized pipe is made at a tin shop and the gas pipe is cut by a plumber, the only tools required to make the roller would be a hammer, bit and brace, to make the board forms, a trowel to smooth the concrete and a shovel to mix it. A blacksmith will make a more satisfactory handle than a novice, but an old lawn mower handle may be available that can be attached by a little ingenuity.

In time the galvanized iron will lose its coating and rust, coming away from the concrete. If the concrete was well tamped it will be found smooth and in every way as serviceable as the iron covering. A roller constructed in this manner is quite good enough for the ordinary requirements of the householder and is produced at a price which is insignificant compared with that of the more elaborate ones offered for sale. This is a very good time to prepare for the coming summer when the lawn will need attention, walks repaired and holes in the tennis court filled and flattened out. A little work for a short time in the basement will produce a roller which will be a great aid in getting an early start for new grass about your new home.



Notes on Gardening



JAPANESE HAREBELL.

SWEET PEAS.

Plant As Soon As Frost Is Gone.

GROUND for sweet peas should be prepared by digging trenches about a foot deep. Place some fine, old manure or fertilizer and stamp it down.

Put in the soil that was removed from the trench, working it thoroughly till it is finely pulverized.

The trenches in which the seeds are actually planted are now made in this prepared ground, about six inches deep. The seeds should be thickly sown and covered with about two inches of soil at the bottom of the six-inch trench. Press the soil down firmly over the seed with the foot. Seeds do best well packed in fine soil. When the seeds come up, thin them out to about seven or eight inches apart and build up the soil gradually about them till a ridge is formed about an inch above the level of the bed. Have wire netting or other trellis ready

as soon as the vines begin to climb. It is said that the hot wire in summer time is not good for the climbing vine, but such good results are often obtained, in spite of the wire, that failure may be laid to some other cause. Twine may be substituted if desired and requires but little labor to place in position, after a frame is erected. Cultivate carefully about the plants as soon as they begin to climb. Lawn clippings or leaves laid about them will help to keep the ground moist. Sweet peas should be watered often, but the water should go on the ground, not on the vines. Plant early, as there is more danger of being too late than too early. Just as soon as the frost is out of the ground is the time and there will be no danger, or need to worry.

Indoor Planting.

The amateur gardener makes his worst mistakes in spring. The seed coming

from a reliable seed house may be all that it should be, but if not properly handled bare spots will occur in the garden, where beautiful blossoms were expected.

Young plants are often killed by the hot sun or choked by heavy or dry soil.

To get results like the professional florist the amateur should begin now by sowing seed of various showy and desirable annuals, in boxes and pots to be kept indoors till ready to set out.

Holes should be provided in the bottom of the boxes for drainage, but not too many. If too much drainage is provided the soil dries too rapidly and the plant suffers.

The ordinary garden soil should be placed at the bottom of the box and a lighter soil well mixed placed on top.

Seeds germinate better in light soil but need the better soil later to sustain the plant. Sow the small seed on the surface and spread fine soil over them, then press it down but not hard enough to cause the soil to bake.

The coarse seed can be planted in little drills or planted individually and covered over with a thin layer of earth. After planting sprinkle gently until the ground has all it can absorb, but not enough to make it soggy. From now on water the box, whenever the soil is dry a little below the surface. It will be an aid in the care of the soil to plant in rows, as any tendency to bake can be broken up, without disturbing the growing plant. Give the box plenty of light but shield it from hot sunlight. When the plants have grown to a reasonable size, it should be warm enough to set them in the garden. Care should be taken to disturb the roots as little as possible, or not at all to avoid retarding the growth. Some plants cannot be moved at all if there is any shock attendant to the operation.

Planting and Care of Tomatoes.

Tomatoes should be started in the house and be well advanced when it is warm enough to set outside. Tin cans are best to contain them and should be prepared by carefully cutting out the top and bottom. Heat will no longer remove these portions, as the method of construction is different from the old-fashioned cans. Place the cans in a shallow wooden box, properly drained and fill with earth. Plant the seed and

water the plants frequently but not enough to keep the soil soggy.

While the plant is growing is a good time to prepare the frame for it to grow upon. It will be too late to begin this work when the plant is set out, because the whole garden will require attention and some parts must suffer if time is wasted now.

A simple support is made by driving four stakes at the corners of a square about one foot in area, and nailing slats from one stake to the other. The tomato is trained over these, but is not forced to spread out as much as it should, allowing the fruit to be separated from the foliage.

If space will permit make a frame about two feet square with about six slats nailed across.

Drive four stakes, to project six inches above the ground and upon these lay the frame. The plant will spread out through and upon this frame and the fruit, when it appears, will be supported. There will be no danger of it falling off and every portion can be reached by the sun to ripen evenly.

Often with improper frames the fruit is removed and placed with the unripe portion to the sun, a method not always satisfactory.

The frames having been made and the plants ready to transplant, the boxes containing the cans may be taken out to the garden. Scoop out enough dirt to allow the tin cans to set in, with a projection above ground of two inches. Do not remove the can. It is an excellent protection against cut worms and will not interfere, in the least, with the growth of the plant. The plants may be grown in paper boxes if preferred, in which case cut the sides when transplanting and leave to rot away. The bottom must always be removed.

The Lawn in the Making.

Much depends upon the character of the soil in producing and maintaining a lawn. A good dressing on sand often supports a good lawn, but it requires constant attention. With a good depth of soil a lawn should be brought to perfection in such a manner that frequent watering is unnecessary, except in the hottest weather. The lot should be carefully graded with a view to shedding

the water most advantageously. This should be carefully studied, by the owner, with relation to the adjoining property. The whole surface should be carefully raked till it is relatively level, the soil fine and all foreign substances removed. The amateur will do well to roll the whole surface before seeding. This will cause slight depressions to become apparent. Having corrected these the seed may be considered. Grass seed should do well upon the preparation above, but if there is much clay, clover will do better. The clay may be treated with ashes to break up the cohesion of its parts.

After seeding, the ground should be rolled and watered regularly. It should be thoroughly soaked, but with a fine spray, to avoid washing the surface.

Continue the rolling every few days after the grass is well started. Keep the lawn mowed regularly, never allowing it to get beyond control of the mower.

New grass should be cut as long as possible, by setting the machine up. When the lawn is well started water it thoroughly and allow it to go without for a while. Beginning with short intervals and increasing the time will force the root system to go deeper and thus be better prepared to sustain the grass. This is true of certain trees. Frequent

watering of shade trees produces a superficial root system which should be deeper to reach the water stored in the ground by nature.

Fertilizer of some kind should be applied each year or at least each alternate season.

When an immediate effect must be produced, sodding with turf from other places is resorted to.

It is absolutely necessary on terraces, where the soil may wash down before the turf is formed.

The sod should be free from weeds or other plants and cut with sharp clean borders.

The ground should be carefully leveled and well soaked just before the sod is laid. Cut the sod in convenient sizes and about 1½ inches thick. Just before laying turn the sod face downward and soak it thoroughly. All pieces should be thoroughly bedded and carefully fitted one to the other. If this is not done the roots get no foothold upon the soil and the piece dies.

It is better to sow seed in the northern states, in the early spring as soon as the weather will allow. If the seed is sown in the early autumn, thin portions can be reseeded in the following spring. The rake should be used carefully in the early growth of the grass or better not at all till it is firmly grounded.

How to Protect Structural Metals

Courtesy of O. C. Harn

(Continued from the February Number)

THE PROPER CARE OF METAL BEFORE AND AFTER PAINTING.

THE application of the right paint is the most vital step in the prevention of corrosion, but every other possible precaution should be taken. The following points should be carefully observed.

It is exceedingly important to clean off rust before painting. Rust is an accelerator of rusting. It is also apt to cause the peeling of the paint.

Have the surface to be painted as smooth as possible. It has been ob-

served that brightly polished steel plates which have been scratched, corrode slowly except at the scratches, where they rust rapidly. Structural steel makers may some day realize the importance of this phenomenon and provide structural steel with much smoother surface than now. At present, structural steel is a rough piece of manufacture. Care should be exercised at the mill, however, to produce as smooth and clean a product as possible. Then the responsibility is upon the contractor to keep it so.

The practice of throwing iron and steel

members on the ground and allowing them to be covered with dirt and refuse cannot be commended. They should be handled with care and placed on proper supports. As far as possible they should be kept under cover, unless they are to be used within a comparatively short time.

For years the practice of giving structural steel one coat of protective paint before it left the shop held universal sway. Of late, however, the custom has been questioned and many architects and engineers are having the steel delivered unpainted. The new idea has much to recommend it—two considerations especially. The first is, that a certain amount of weathering is desirable to rid the iron of mill scale. The other is, that shop coats are generally poorly done by cheap labor and really do more harm than good, because they cover up the evidence of poor work in the matter of cleaning the metal. In case there is no shop coat, the first painting should be done just before assembling begins.

Scale and all other foreign material must be removed before painting. The relative value of the sand-blast, wire-brush and pickling, as methods for cleaning, are discussed elsewhere in this booklet.

Little can be done on a structure toward securing equality of surface conditions—that is, the same composition of metal—but what can be done should be done, and where palpably different conditions exist, such as where wrought iron rivets and bolts are used on Bessemer steel members, extra precaution should be taken with the painting at such points.

No paint is absolutely impermeable to water or to gases. It is therefore worth while to keep the moisture contents of the air as low as possible. This has particular reference to subways, cellars, etc. In exposed structural work, all gutters or pockets in which the rain-water might otherwise collect should be made to drain as nearly dry as possible. In subways and viaducts carbonic and other acids are apt to collect. This should be prevented as far as practicable by mechanical or chemical means.

PREPARING FOR PAINTING.

Just before assembling begins all parts of the metal which are not to be exposed—that is, those parts which cannot be

cleaned and painted after erection—should be thoroughly cleaned with wire brushes and scrapers and at least two coats of red lead should be applied to these surfaces.

While the use of the sand-blast is theoretically a desirable thing, so few contractors are equipped or are willing to use it that the utmost that can be done at present is to insist upon thorough cleaning with wire brushes and scrapers, with the assistance perhaps of the hammer and cold chisel. This cleaning should be done under the proper supervision of a competent inspector. Painting should immediately follow cleaning.

The selection of proper men to do the cleaning is a matter of no small importance. These men should be impressed with the importance of their work, which should be specialized as far as practicable. The habit of contracting for cleaning and painting work together and placing the whole in the hands of the employers of unskilled labor is a cause of much bad work. As far as practicable the cleaning should be done separately by men whose direct interest is that of the owner.

For the cleaning of small articles, pickling in sulphuric acid is an excellent method, care to be taken afterwards to wash the sulphuric acid all off the iron and then to cover the articles with caustic lime until ready to paint. The following method of treatment should give satisfactory results: Dip the articles if at all greasy, in a hot ten-per-cent, caustic soda solution; then in hot water; then for, say ten minutes in hot ten-per-cent sulphuric acid; then in hot water; then in hot ten-per-cent carbonate of soda (soda ash) solution; rinse well in hot water, and pack in slacked lime until time for painting has come. Remove from the lime; wash well with water; brush clean, and dry rapidly.

AS TO QUALITY IN RED LEAD.

Red lead is not all alike. Some manufacturers, relying upon the excellence of oxide of lead in a general way, do not pay much attention to making their red lead uniform in composition, texture, color, etc. This fact has led many large users of red lead to adopt certain specifications on these points to which they require the material to measure up.

Designs for the Home-Builder

THIS is a season when designs are in great demand. With the return of spring, building enthusiasm is at a white heat and things must move, to satisfy the demands of the building public. To the man who has looked forward to a home of his own and whose efforts have at last brought him to within striking distance of the reality, his house is the most important project of the year.

If he has almost, but not quite, decided upon his design, he is anxious to do so at once and welcomes every one published, as a possible solution of the few remaining points. Nine designs appear in this number and will be found sufficiently varied as to style and price, to suit the requirements of many.

A pleasing concrete house is submitted with a good floor plan. The gambrel roof is in evidence, as is also the simple but artistic cottage. A unique design of stone or concrete is offered and designs in cemented expanded metal. Of interest will be a duplex house in cement, a form of dwelling much in favor where a home and an investment is desired at one and the same time.

Design "B 122."

This design provides for enclosing walls to be 12-inch solid concrete, waterproofed on inside with waterproof paint. Exterior of walls except neat and cast work treated chemically to produce rough effect. All foundations and footings solid concrete. Contrasts are obtained only by smooth effect of all neat work which includes cast work, sill course, water table, coping and sills as shown—all gutters to be concrete.

Roof.—To be concrete continuous slabs 3 inches thick, reinforced.

Floors.—To be reinforced slabs 5½ inches thick, finished and polished, using marble dust. Mantel seat and beams of living room to be concrete as shown.

Partitions.—All partitions to be solid

3-inch plaster partitions. Wainscot of kitchen, bath and toilet to be ruled cement 5 feet high.

Stairs.—To be reinforced and built without strings; rails to same to be 6-inch solid rails with molded cap.

Plastering.—To be patent mortar sand finish, includes all rooms, except basement and attic.

Carpentry.—All frames of windows and doors to be pine. All finish to be either of plain flat sawed red oak, as shown on plans, or short leaf yellow pine; all oak doors veneered, balance of doors solid.

Painting.—All exterior window frames and sash to be painted three coats of lead and oil color white, inside of sash exposed in rooms stained. All trim and doors stained one coat and waxed.

Plumbing, Gas and Sewerage.—All work to be installed according to city ordinances. All fixtures to be plain, serviceable fixtures.

Heating.—To be hot water, boiler to be cast iron sectional boiler, cast iron radiation.

Electrical.—Work to be installed according to rules and regulations of company furnishing current, complete with bells, switches, etc.

The designer has carefully estimated the cost at \$8,000.

Design "B 123."

Believers in the simple life will be attracted to this plain little cottage. The designer has kept in mind the essentials and kept away from the superfluities. The exterior is cemented over and it is covered by a simple hipped roof of shingles.

The homelike little entrance with its seat promises well for the man with a pipe after dinner. The large living room contains a fireplace in a nook as illustrated.

In front on either side of the entrance is a shallow alcove containing a "bunk."

Cottage Designs for the Home-Builder—Continued

This supplements the sleeping accommodations wonderfully. Sufficient privacy is provided by curtains from the beam overhead. There is a well appointed kitchen and entry with refrigerator space.

The chamber opens upon a bathroom of good size and a large closet.

The interior finish is in the mission style with rough plaster.

The ceiling is 9 feet 6 inches in height.

The cost to build this cottage in Colorado is stated at \$1,500 without heat.

Design "B 124."

The gambrel roof has been employed in this Colorado home with sided gable ends.

The basement walls are of stone and range work above grade is white sand stone. The first story is built of very light grey brick; the remainder of the house is frame. The porch is constructed with clustered columns and is approached by a wide flight of steps with buttresses on either side.

The plan is arranged for a central hall with parlor and living room at either side.

There is a dining room with an entrance porch, a pantry, kitchen and screened porch.

The stairs arise, with a combination flight for kitchen use, to the second floor.

There are five chambers, those in front having a dressing room each adjacent.

The bathroom is large and has floor and walls to the height of four feet of tile.

There are many closets, including linen closet and store room.

The walls are of sand finish and tinted.

The interior finish is of hard pine stained and finished without glass. The floors of principal rooms and hall are of oak. Everything about this house is of the best and its cost was \$7,000. It should be built in some localities for less money.

Design "B 125."

In the exterior and floor plan illustrated herewith is shown a five-room shingled bungalow.

The one-story bungalows have many advantages. They are picturesque, and the ease of housework is a strong factor in their favor.

This little cottage is finished in fir in the main three front rooms. The arrangement of rooms, bath and closets is very convenient.

There is a good sized cellar under the kitchen and dining room.

Built-in cupboard for dishes in the kitchen and built-in sideboard in the dining room.

All the floors are of fir stained.

The porches are of good size.

All hardware is of brass with the exception of the bath, which is nickled.

The outside of the house is shingled (all double courses) and stained a warm brown with trimmings of ivory white. The roof shingles are stained moss green.

It has a good sized attic for storage space.

The foundation is of split granite boulders.

Casement windows throughout the house with the exception of kitchen windows which are double hung.

The cost complete including plumbing was \$1,700.

Design "B 126."

This cement and stone house is on very simple square lines and simple details. It should be situated on a wide lot to get the best effect. Its porches are items of interest in the design and protect two sides of the house.

The living room is of splendid proportions and has a pleasing view of the hall and stairway. The dining room is well located and of good size. There is a butler's pantry, kitchen and kitchen pantry.

The appointments of the service portion of the house are unusually complete and convenient. On the second floor are three bed rooms, a sitting room, a sewing room and a bathroom. The sitting room can be used as a chamber at any time. The lower story is finished in oak for the principal rooms with oak floors. This finish is continuous to the hall of the second story. The chambers, however, are of white enamel with birch doors in mahogany finish. There is a hot-water heating plant and a good quality of plumbing fixtures. The architect estimates the cost at \$5,000 or \$6,000 according to finish and equipment.

(Continued on page 191)

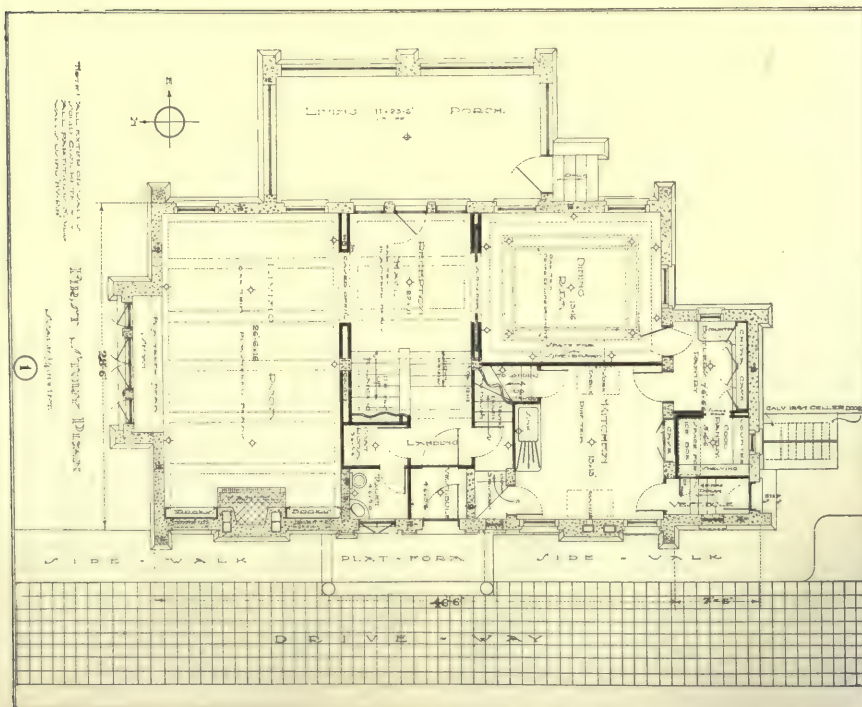


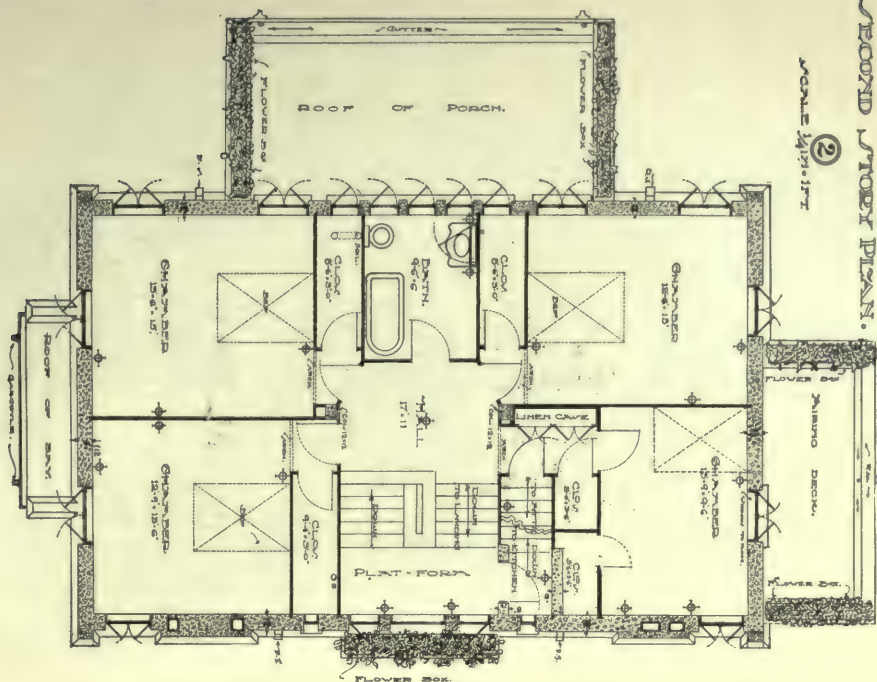
C. WHITNEY STEVENS, Designer

Courtesy Universal Portland Cement Co.

An Artistic Cement House

DESIGN "B 122"





Cottage Designs for the Home-Builder—Continued

Design "B 127."

A most compact and economical house to build. The good sized sitting room has a fireplace with bevel plate mirror above mantel shelf and bookcases at either side, having leaded glass doors. Combination stair, large pantry, hardwood floor in hall, dining room, kitchen, second story hall and bath. White oak finish on first floor except kitchen part. There is space in the attic for a room if desired.

Full basement, cement floor, ash pit, fuel bin, laundry and outside cellar entrance. Hot air furnace. Finish of kitchen and second story, pine, poplar or cypress, painted. House is well built, the estimate including back plaster, matched sheathing, double floors, and building paper on all double floors, walls and roof.

Cost, \$3,528. Width, 33 feet. Depth, 29 feet. Height of basement, 7 feet 6 inches. First story, 9 feet 5 inches. Second story, 8 feet 3 inches.

Design "B 128."

This house of masonry construction is admirably adapted to a large lot, or a country estate. It is on very graceful

lines yet very symmetrical and commands a view in every direction, from its many windows. The terrace and porches on three sides, make it possible to move about freely, even in inclement weather.

There is a large reception hall and angle nook, with wide openings to living room and dining room. The kitchen, pantry, stairway and entry are all convenient and well located.

The main stair has a few steps up from the rear entry, to act as stair from kitchen, etc., without passing through the front hall. A feature that will be appreciated by the older members of the family is a bed room on the first floor, with bath room adjacent. There are four good chambers on the second floor. The first story is 9 feet and the second story is 8 feet 6 inches high. The finish is golden oak and birch on first and second stories respectively.

The architects estimate the cost, exclusive of heating or plumbing, at \$4,500 to \$5,000.

Design "B 129."

This duplex house, except that it has two front entrances, might easily be tak-

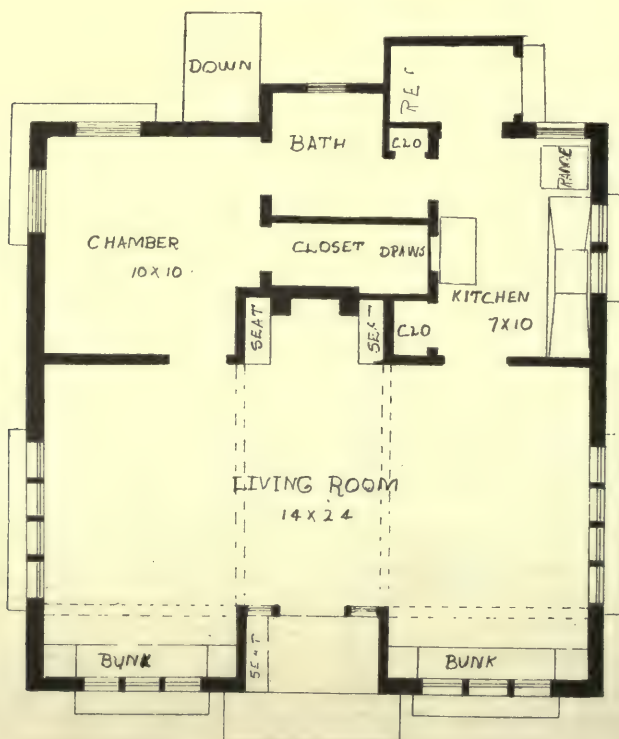
(Continued on page 139)



Ora W. Alford, Designer

A Simple Cottage Home

DESIGN "B 123"



Cottage Designs for the Home-Builder—Continued

en for a private residence. It is cement coated on wire lath with a medium degree of roughness. The wood details are somewhat colonial, and are painted white. On the first floor the vestibule opens into a reception room from which one may pass to the living room or beneath the stair to the chamber. There is a spacious dining room, a pantry, a kitchen, a bath room, rear chamber, and a large linen closet. The second floor has an alcove with a closet in place of the reception room. The finish is stock yellow pine and fir floors. The hot water plants are separate and are not included in the estimate. There are additional rooms in the attic and a laundry in the basement with storage rooms. The cost is estimated at about \$4,550. The height of basement is 7 feet 6 inches, the first story 9 feet 6 inches, and the upper story 9 feet.

Design "B 130."

Bungalows are not hard to find nowadays, but a bungalow made of cement

blocks is not so common. This design has a cement block exterior, built up of 8x24 inch blocks with cement window sills and lintels. The plan is made to accommodate a family of two, there being a parlor, dining room, chamber, bath and kitchen with small attic space on the second floor, but no basement.

It is one of those houses which mark the opening of a new era in building construction. Ten years ago a house built of concrete blocks could not be found. This house is, therefore, up-to-date in every respect. Concrete houses call for simple exteriors, houses with regular proportions and symmetrical, well balanced elevations. Designs of this character are not only desirable but necessary for the construction of concrete block houses, having the distance so spaced between the windows that full length blocks can be used without cutting. All these things have been carefully provided for in the plans for our model concrete bungalow. Estimated cost, \$1,665.



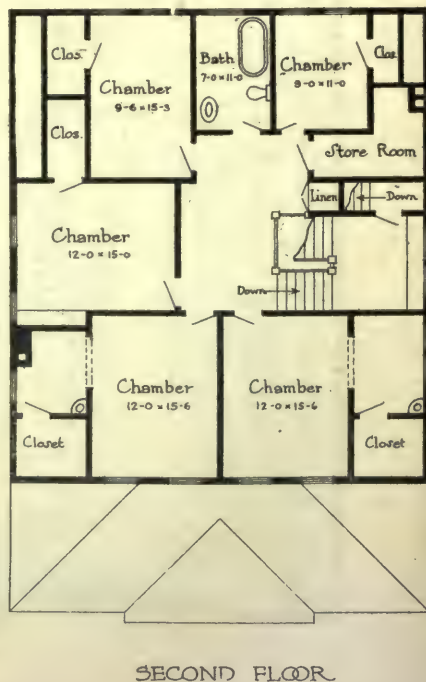
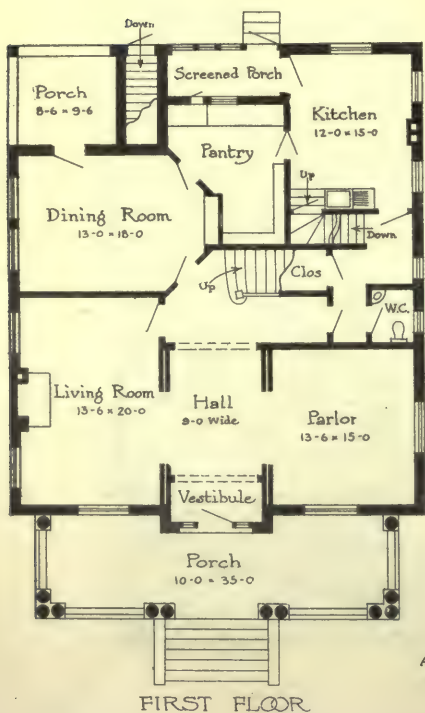
THE FIREPLACE AND NOOK.



A. E. Saunders, Architect

A Gambrel Roof with Twin Gables

DESIGN "B 124"



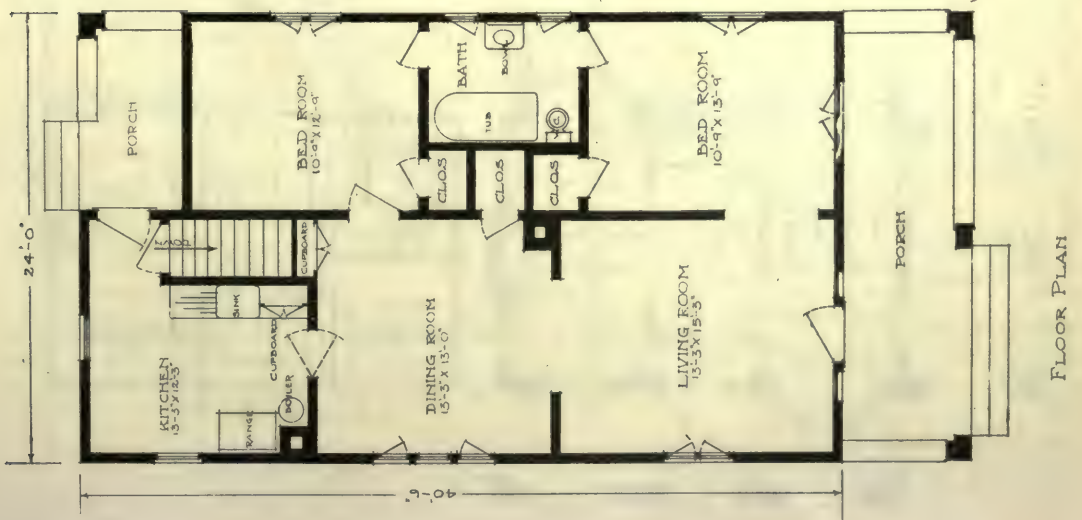
ARTHUR E. SAUNDERS
• ARCHITECT •



Keith & Whitehouse, Architects

A Shingled Bungalow,

DESIGN "B 125"

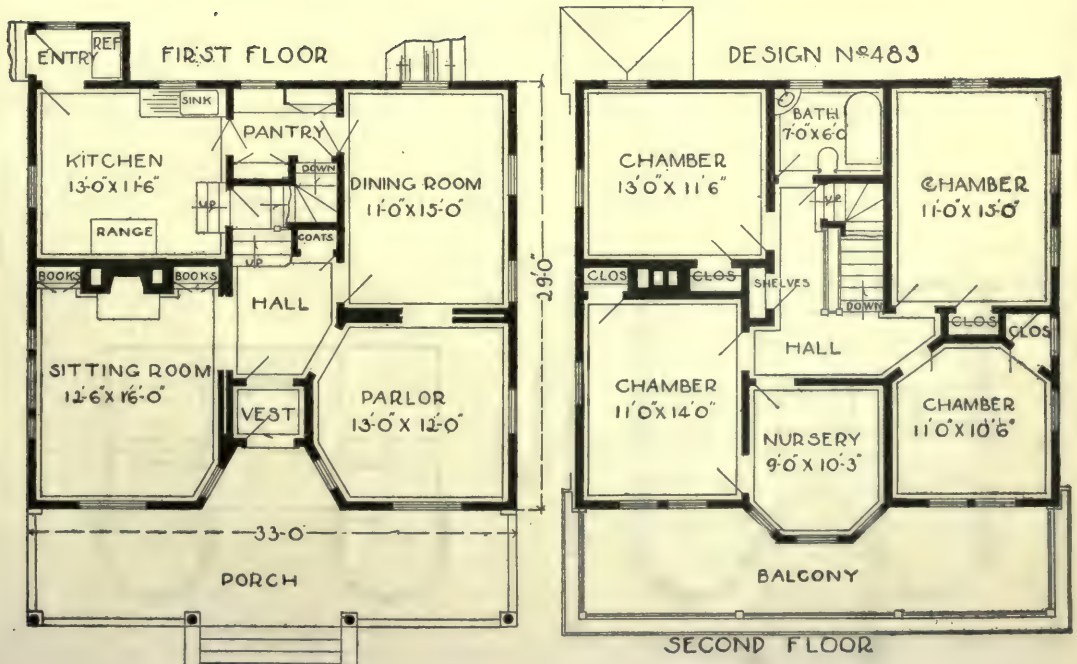




The Keith Co., Architects

An Attractive Wooden House

DESIGN "B 127"

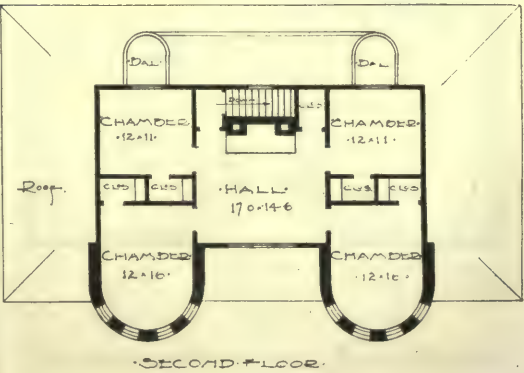
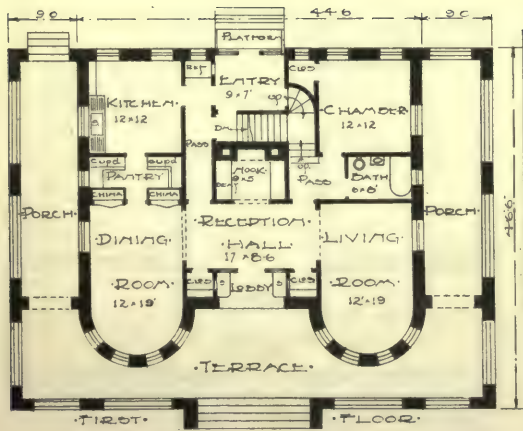




Edwins & Eichenfeld, Architects

Attractive in Cement or Stone

DESIGN "B 128"

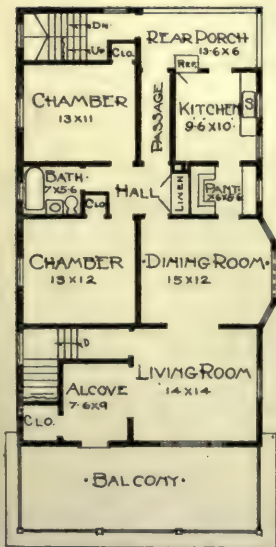




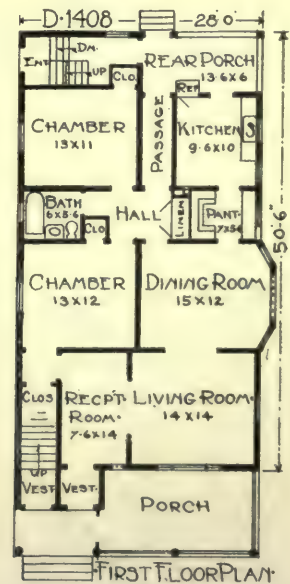
From "Duplex Houses and Flats."

A Duplex of Cement

DESIGN "B 129"



• SECOND FLOOR PLAN •



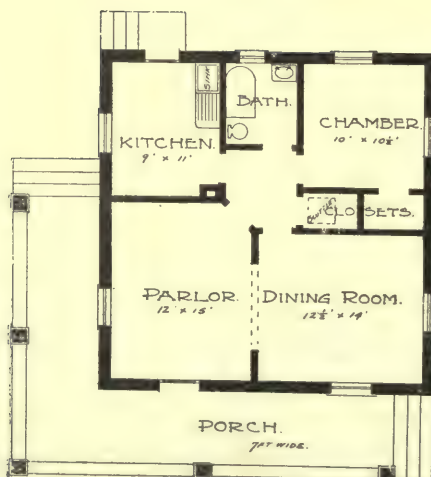
FIRST FLOOR PLAN



Journal of Modern Construction Series

A Cement Block Cottage

DESIGN "B 103"





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As to Curtains.

READERS of these pages know that the writer holds no brief for curtains. She is of the opinion that they are of doubtful utility and of more than doubtful beauty. That is to say, in most cases. The average Irish point or Nottingham lace curtain is an abomination. It has no intrinsic beauty, it is so much trouble to wash it that it is seldom clean, and it adds greatly to the cost of house furnishing.

But in the narrow streets of a city, we must attain a measure of privacy and in many cases we can only do it by the use of some sort of a transparent curtain. The thinner this is and the more closely it clings to the pane the better. The vogue of the sash curtain, covering the lower half of the window is over, but it had distinguished merits. The principal objection to it is that it looks very awkward when the shade is raised above the centre of the window. If this necessity does not exist, the sash curtain can be made a distinctly beautiful addition to the room, as its small size admits of the use of more expensive material and decoration than would perhaps be afforded for a full sized curtain. Insets of Renaissance lace, bands of Madeira work, insertions and edgings of Cluny lace and filet, or reticella squares may all be applied to sash curtains, with the certainty that none of their beauty will be lost, the light shining through them enhancing their beauty of outline and delicacy of texture.

Worth an Effort.

What is really worth while in the way of curtains is the long curtain of heavy texture, hanging straight to the floor, from a pole, well pushed back, so that

it does not obscure the light, or else hung from a small rod, under some sort of valance, and reaching only to the sill. Which of the two arrangements is chosen is a matter which depends upon the shape and size of the window, and upon the proportions of the room. But whichever is used, these heavy curtains are a very distinct addition to the furnishing of a room, and worth some sacrifice.

Curtains for Different Windows.

The French window, reaching to the floor, and the deeply embrasured window, alike, demand floor length curtains, hanging from a bracketed pole. The exception to this is when the recess of the deeply embrasured window is filled in with a seat, in which case the curtains should stop at the sash.

On the other hand, windows flush with the wall, and at any considerable distance above the floor, should have sill length curtains. And most curtains of this sort are improved by a pleated valance, reaching at least nine inches below the window frame. This way of hanging curtains is specially adapted to low windows and to windows in groups.

The Relation of the Curtains to the Rest of the Room.

In general, heavy curtains should be darker than the walls of the room, and the same rule applies to portieres. If the wall is figured, the curtain should be plain, and vice versa. The very ugliest of modern decorative fashions is that which hangs cretonne curtains exactly matching the wall paper at windows and doors. Aside from the fact that paper and cretonne differ just enough to make the variation perceptible, the effect of a room thus treated is exactly as if one should cover a box inside and out with

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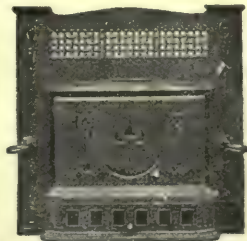
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Decoration and Furnishing—Continued

the same flowered paper. The proper use of cretonne matching the wall paper is for loose cushions for wicker furniture, for bed and bureau covers, for pillows, in short, for any purpose where the two materials are separated from each other, ever so slightly. Their happiest association is in a room with a high panelled wainscot, the cretonne furniture coverings repeating the color and design of the papering of the upper wall.

Flowered Taffeta for Curtains.

An effective, and not expensive material for curtains is linen taffeta, either the imported double width variety, or the domestic goods in single width. To find satisfactory designs in the latter requires search, but they can be had, and the neutral tone of the ground of both sorts adapts them for uses for which the ordinary cretonnes would be out of place. These taffetas and the printed linens are quite suitable for use as curtains in simply furnished libraries and living rooms. The curtain should be treated as the high light in the room, any other positive color harmonizing with it.

Charming flat gimps come specially for bordering such curtains, being a compromise between a braid and a fringe. The hang of the curtains is much improved by inserting weights in the lower hem.

Cotton Rep.

Another cheap material, this in plain color, is cotton rep. It is most pleasing in browns and greens, hangs well and needs no lining, unless strong sunlight shines through it. Its price varies from thirty-nine to fifty cents, double width. In making it up, a silk cord overhanded to its edges gives it the appearance of something very much finer than it is. Indeed in using almost any cheap material, the finish tells greatly.

Prima Vera.

A new wood for furniture, as yet seen only in bedroom furniture, is prima vera. In color and texture it is not unlike white mahogany, although with less grain. It is made up in severely simple shapes, as what is known as cottage furniture, and costs about the same as natural birch. It would seem to be a desirable addition to the list of inexpensive

woods, and the range of pieces in which it is made will doubtless be extended, as soon as its market is assured.

Elizabethan and Jacobean Furniture.

In more expensive furniture, there is a revival of the style of furniture in vogue in the reigns of Elizabeth and James the First. So far the output seems to be confined to bedroom and dining room furniture, with some settles, tables and chairs which might be used for a library. The pieces are of large size, many of them severely plain in outline, others with twisted legs and more or less rather flat carving. The Elizabethan chairs and stools have rush seats, the Jacobean seats and backs of finely wrought cane. A noticeable feature are the hanging knobs, for doors and drawers, in dull brass.

The wood is oak, the finish dull, the color warmer than fumed oak, but about the same depth of tone. A fair average price for a set of dining room furniture in this style is two hundred and seventy-five dollars, while a bed room set of many pieces, with twin beds, elaborately carved, costs in the neighborhood of nine hundred dollars. The size of this furniture adapts it only to rooms of large size, and one would say that to be seen at its best it would require specially constructed rooms with beamed ceilings and panelled walls. It would seem also to demand much strong color to give it a semblance of cheerfulness. If these limitations are borne in mind, it would be an excellent purchase, from the point of view of durability and of real artistic quality. But it certainly makes no appeal to those who care first of all for cheerfulness. Though when one sees the popularity of Mission furniture, one wonders if they are so many, after all.

Adam Furniture.

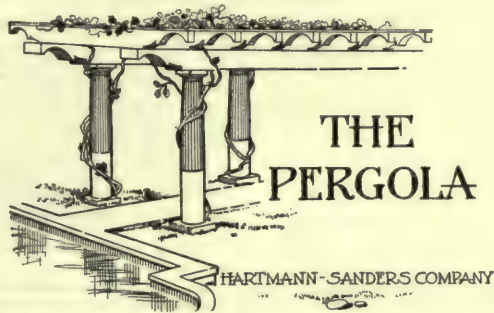
Still another revival is seen in the copies of the delicate and beautiful work of the Brothers Adam. Their chairs, settles and tables, of white enamelled wood, delicately painted in pale colored medallions, are copied with great accuracy for use in formal drawing rooms, in combination with French tapestries and brocades in light colors, flowered or striped. They too require a setting of

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Decoration and Furnishing—Continued

their own, a lofty room with panelled walls and much plaster decoration in relief. This furniture is very beautiful in its way, but not for everyday use.

Silver Deposit on Porcelain.


The silver deposit, which has been so popular as a decoration for glass, is now applied to porcelain. Exquisite tea and coffee services are of pale tinted porcelain, yellow or apricot, the silver applied in delicate traceries. The sets, pot, sugar bowl and cream pitcher, include a tray. They are commended to the seeker for wedding gifts.

Lighting the Dinner Table.

Most people will agree that the ordinary over head lighting with gas or electricity is not specially happy. The light which should descend is distributed over the ceiling. An overhead light is singularly unbecoming and, on festal occasions at least, women like to look their best at dinner. Of course candles are the ideal thing, but it must be confessed they are exceedingly troublesome, while

the shades have a perverse fashion of getting on fire.

It is not many years since that banquet lamps were in fashion. They were high enough to keep the heat of the lamp from the food, and the shade threw a soft radiance over the table. Like many other things they went out with the increased use of electricity. One often finds them in second hand stores, for a mere song. Possibly the burner may be out of order but that is easily remedied. The shade must be supplied, as the old ones are always hopeless, and the best sort is nearly, if not quite, opaque. Given the proper sort of frame, which can be had at any department store, and a handsome shade can be contrived from cretonne, figured silk, or grass cloth. Or one may choose a pale colored geisha shade, in accordance with the general tone of the room. Another point in favor of a lamp of this sort is that it is a very dignified centre piece in the absence of flowers. When flowers are attainable the lamp may rise with excellent effect, from a mass of blossoms about its base.




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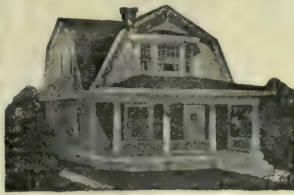
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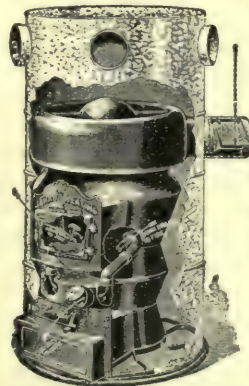
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ANSWERS TO QUESTIONS ON INTERIOR DECORATION

Editor's Note—The courtesies of our Correspondence Department are extended to all readers of Keith's Magazine. Inquiries pertaining to the decoration and furnishing of the home will be given the attention of an expert in that line.

Letters intended for answer in this column should be addressed to Decoration and Furnishing Department, and be accompanied by a diagram of floor plan.

Letters enclosing return postage will be answered by mail. Such replies as are of general interest will be published in these columns.

E. R. S.—I herewith send you ground plans of our house fronting north, ceiling nine feet, all finished in quarter-sawed oak, I want color scheme for all the walls and ceiling. Also please give me kind, color and dimensions of rugs for this house.

Second floor to be finished in birch, two north bedrooms to be white, with mahogany doors; undecided about the two south bedrooms; bathroom wainscoting and floor white tile. Dimensions of bedrooms—N. W. 10x15, N. E. 13x15, S. E. 10x15, and S. W. 12x12.

Ans. E. R. S.—In reply to your recent letter asking for some suggestions, would say an ideal treatment for this attractive house would be fumed oak with a reddish cast toning in with the reddish mottled fireplace brick. On the living room wall a putty grey Guildhall tapestry paper with the design brought out in a darker tone of the grey. Ceiling a light tone of the grey. Rug, draperies and upholstering carried out in rich, deep blues. The lower 5½ feet of dining room wall covered with fabricona in rich, metallic blue, the wall above a grey crepe paper with frescoed decoration of bluish grapes and foliage in rich greens. Ceiling, same grey tint as living room. Rug of mixed blues and greens in a Wilton 9x12, cost \$40.00. Living room rug, if one large rug must be made special, and a 10x16 Saxony rug would cost about \$80.00.

There is but little wall space in hall and one of the Japanese metalized effects would be handsome there with oriental rug in blues and dull reds, same carried out in the stair carpet in Wilton. If preferred, green could be substituted in living and dining rooms for the blue.

For one of the north bedrooms, use a light grey and white striped paper with cut out frieze of wild roses, the wild

roses carried out in over draperies at windows and in chair covers, etc. In the other, a nasturtium design on a white ground for 7 feet up to molding, then ivory white wall and ceiling. One of the south bedrooms would be pretty done in a light greyish tan chambray, paneled top and bottom and in corners with a pink rose banding, with rug having greyish tan center and rose border.

S. E. K.—I want to ask your help in decorating a \$2,500 bungalow of five rooms.

In my room I want Circassian walnut and as I have a dresser and washstand of golden quarter-sawed oak, I would like to use it in guest room.

As I cannot get cobblestones for my fireplace and chimney, please suggest something that will take their place and be as pretty. Somewhere on my fireplace or mantle I want the motto, "I cannot warm you if your heart be cold." How could this be used?

Ans. S. E. K.—It is suggested to stain or paint the woodwork in living and dining room a soft olive green; to use a paper imitating rough plaster in a warm putty grey on living room walls, ceiling a lighter grey, with green rug and green wicker furniture. To have a plate rail in dining room with a thirty-inch frieze of oranges and deep green foliage on a deep cream ground above it, with cream ceiling. Below plate rail either burlap or a fabric paper in a rich green, with furniture of ash-stained green.

In regard to the fireplace, rough clinker brick, bedded in mortar, would give the bungalow effect. The motto could be lettered upon a plain plaster panel, let in to the brick of the over-mantel or there could be a very thick shelf of wood or cement and the motto lettered upon the wide, outer edge of the shelf.

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Answers to Questions—Continued

in your climate, or you could have an effect of casements in a group of windows, where all were fixed, except one made to open. Screens are placed on the outside and the casement swings in.

It is not customary to place any furniture on a sleeping porch, other than the cot bed and possibly a chair or two.

Soft old blue would be pleasing with the Circassian walnut. A guest room with golden oak furniture is hard to make dainty. Pretty chintz hangings with a light grey basket pattern wall would be about the best choice for a north room.

Our house is a cottage facing west. The rooms are small, and I fear that the rooms will look crowded by the time the necessary furniture is placed in them.

The woodwork except in the kitchen has been painted white. Would not ivory be better?

The floors are unpainted boards. What shall we do with them, as we wish to use rugs.

First, there is the tiny vestibule, three feet by four feet. What color wall paper would you suggest for it?

Then the little parlor, eleven feet by nine; has two windows, one on the west, the other on the south.

The height of the ceilings in all the rooms is nine feet.

The furniture will be fiber rush, stained green and upholstered in a white and green cretonne pattern. The rugs are Persian with light brown the predominating color.

The living room opens from the parlor with doorway five feet wide. The room measures ten feet by nine. The furniture will be the same in this room, with green oak library table. There is but one window, on the south. What color rug, curtains and paper would be best here?

Ans. The first advice offered by the decorator, is to take out the partition between parlor and living room and make one good room. It will relieve the cramped effect of the whole house to have one large living room. The other rooms don't matter. This does away with any portieres between, which would cost as much as taking out the partition, and your mahogany and green reed furniture, with its cretonne cover-

ings, will fraternize together admirably. Yes, the woodwork here would be better in ivory, but the white will answer. Get some dainty, fine white scrim curtains for the windows, either by the yard, with a little edge, or by the pair, with deep hems and insertions, \$4.50 a pair. Put an apple green, silk finished Eltonberry paper on the wall, 90 cents a roll and white ceiling. Get a plain green rug for the center of your long room—perhaps a 6x9 with one of the Persian rugs each side of it. You will have a dainty, charming room, but not too fine to use. The cracks in floor must be well filled, painted a dark water green and waxed. Stain the other floors dark brown, shellac and wax.

Paint the woodwork in dining room a cigar brown and use a soft old blue wall paper; curtains of cream figured net or cross bar scrim. I should paint kitchen woodwork a light brown, walls cream color, with brown and cream linoleum on floor.

The birdseye maple will look well against soft old blue walls, or rose. A tapestry bedroom rug in a 4x7 size would cost but little and come in lovely colors and designs.

F. A. W. Please send me a color scheme for paper, interior painting and carpets or rugs and upholstery. I enclose the house plan from which our plan is taken. We have arranged the living room fireplace on the west wall and have put the reception room all in the hall—making an open stairway.

The house faces the south. I have a red rug that I must use and thought it would do in the dining room. The hall and bed rooms will be finished in white, woodwork dull finish.

The living room in mission and the dining room in oak to match the furniture. The reception room or hall will have mahogany furniture which must be re-upholstered. The living room will eventually be finished with mission furniture, but at present we have some oak for the room along with the new mission pieces. One bed room has mahogany with brass bed. The second has white beds with white furniture.

Ans. F. A. W. In answer to your recent letter, this is a small, compactly



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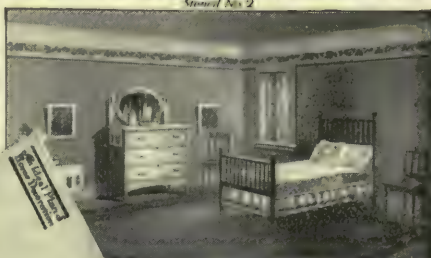
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Answers to Questions—Continued

arranged house and the contrast between the white woodwork of the reception hall and dark, mission oak of the living room opening from it will be rather violent. It is advised to overcome this as far as possible, by a strong, rich red on the walls of reception hall, using the red rug there. If too large, possibly it can be cut into two small ones to fit the floor space. If this is not possible and the red rug must be used in the dining room, then tint the ceiling between beams a light, vivid red, and make the lower side walls a dull, grey-green with decoration of autumn leaves in greens and reds above.

Do the living room walls in a soft inconspicuous grayish green, with ceiling several shades lighter but carrying the same tone of color. Have the rug and furnishings in deeper, richer greens. With this scheme, use a tapestry paper in the hall, showing dull blues, greens and terra cottas on a greyish ground, and two small oriental rugs.



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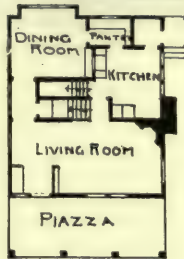
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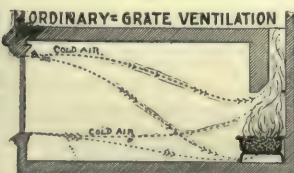
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PEOPLE who live in small places have a class of difficulties, from which dwellers in cities are, or may be, happily exempt. He who lives in a city of any size, if he belongs to the great middle class, as most of us do, seldom has a very definite social position. He chooses his own friends, makes his own, is quite free from the social competition which exists in small communities. In a lesser degree, perhaps, the condition applies to his wife and children.

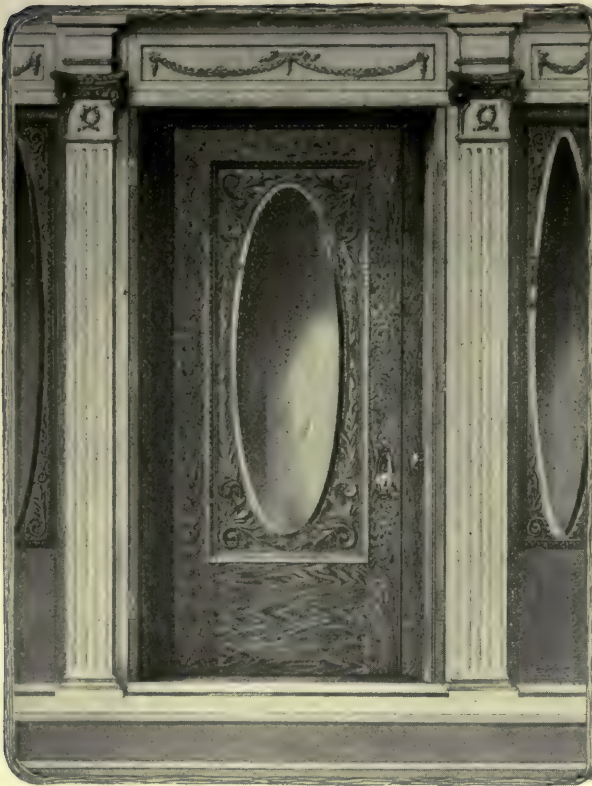
But in the smaller places, everyone knows everyone else, all one's friends belong to the same set, do the same things, share the same amusements. So do the children. If my child does not go to your child's party, woe betide us. If my child does not return your child's party, worse yet.

Rivalries and jealousies, a commercial attitude in social intercourse, are bad enough among grown people, infinitely worse when they extend to children. Your own effort to keep up socially may result in nothing worse than nervous prostration which however trying is not a moral malady, but your child may get a spiritual twist which will last him all his life. For nothing is more certain than that formal social life, as it commonly exists, tends to make the people who take part in it exceedingly self-centred, jealous of consideration, disregarding of others, except in the most formal way. Traits like these are not uncommon developments of human nature, but are hardly to be desired in a child. How to escape his acquiring them is one of his mother's problems.

A Matter of Substitution.

Some sort of substitution for the undesirable diversion is almost always possible. If you do not want your child to share in the good time of his playmates, give him some other sort of a good time, and at the same time. For the average child living in a small place, all the joys of life are summed up in a day in the city. It is doubtful if, in the long run, it is more expensive than the party, with its necessity for a special dress and accessories, and its probable resultant of doctor's bills.

There is another aspect to the matter, the benefit to the child's mental development. No amount of study can take the place, as a means of culture, of the seeing of pictures, the hearing of good music, the familiarity with all sorts of beautiful objects, which are to be had in a city, at slight trouble and expense. Take for instance the matter of the study of history. Which child has the more definite idea of our colonial epoch, the one who is letter perfect in the book, or the one for whom the written outline is filled out by a familiarity with the costume, the furniture and the details of domestic life generally, such as is obtained from visits to the museums where historical collections are to be seen? Or the matter of languages. How real French and German become to a child, when he sees them on signs, or hears them spoken in the foreign quarters of our cosmopolitan cities. It is the difference between the practical and the academic, and it is the fault of too much of our education that it is academic.



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are perfect doors, built of several layers with the grain running crosswise, making shrinking, warping or swelling impossible. Veneered in all varieties of hard wood—birch, plain or quarter sawed red or white oak, brown ash, mahogany, etc.

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Architects: Descriptive details of Morgan Doors may be found in Sweet's index, pages 678 and 679.

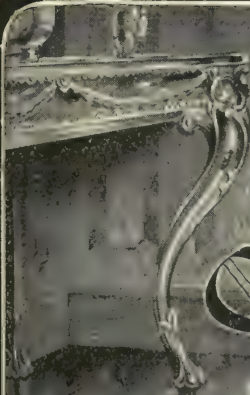
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Household Economics—Continued

Being Indispensable to the Children.

Any real social betterment for children must originate with the mother. She sets the pace for the children, or may do so, if she will. It rests with her to be the person whose society is dearer to them than any other pleasure, and to make their home life so happy that the whole question of diversion assumes a position very much in the background. She may not be able to offer substitutes for the pleasures of the other children, but she can create such attitude of mind that she can say, "Mother doesn't think it best," with the certainty of cheerful acquiescence. That is the sort of thing which is really worth while, whose price is greater than that of chiffons, or of an artistic house, or of social recognition, or of any one of a dozen things for which women strive. It is best achieved by the cultivation of simplicity in the best sense of the word. The principle of simplification may be applied to almost every department of life, mental, spiritual and

physical, with great benefit. For simplicity is another word for leisure, and without leisure there can be no real appreciation of life and its opportunities.

Fine Laundering at Home.

One economy which always pays is to do up laces and muslins for one's self. Two or three visits to the laundry and a lingerie waist or a muslin gown is hopelessly shabby, if not actually tattered.

White soap, thin starch and sufficiently small irons are the principal requisites, also, in addition to the regular ironing board, a sleeve board and a bosom board, thickly padded with flannel, under their muslin covers. With the proper utensils the work is pure pleasure. No dry cleaning process takes the place of soap and water as a freshener of soiled clothing.

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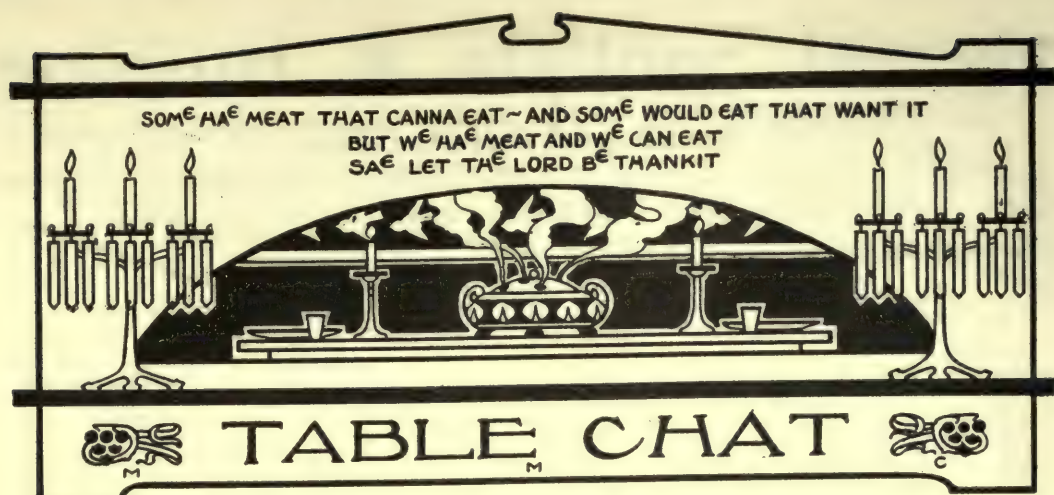
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Carefully Selected Building Subjects, by the Editor, from Stock

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Pink Tulips for Decoration.

NONE of the early Spring flowers are quite so lovely as the hot house tulips, shading from cream to deep pink, their green leaves just the right shade to be a foil to the pink. Stiff, to be sure, but no stiffer than jonquils, or any other of the bulbous flowers.

It is a mistake to put flowers of strong color in any receptacle with much color of its own. The average vase makes the judicious grieve. Put your tulips in a holder of pure white glass, or else use a silver bowl, or jug. It may be fancy, but the writer always thinks that flowers lose something by being brought into contact with the brilliance of cut glass. A clear, plain glass that allows the stems to be seen is a better choice.

Silvered Flower Holders.

An effective holder for flowers may be made from any cheap glass vase of graceful shape. If the surface is corrugated, so much the better. Give it two coats of silver powder mixed with banana oil. The silvering mixture will adhere perfectly well and can be renewed when tarnished.

The Resources of a Can of Salmon.

Canned salmon is a friend in need. It offers the possibility of any number of savory dishes, one as good as the other, is cheap and is always attainable.

For ordinary use the tall cans are preferable, as giving twice the quantity of fish at the same price as the flat cans. The Alaska salmon is perhaps not so

highly flavored as the Columbia River, but it is firmer, of a better color, and freer from oil.

If the salmon is to be served whole, the can must be opened just below the upper edge, instead of inside it. If this is done, it is possible to slip the piece of fish out whole. In this shape it can be simply laid upon a bed of lettuce leaves, after the oil has been drained off and surrounded with sections of lemon. Or the fish may be covered, (masked was the word used by old fashioned cooks,) with a tartare sauce, which is nothing more nor less than a thick and highly seasoned mayonnaise with an addition of chopped pickles and capers.

If the can of salmon is to furnish a dinner, it may be heated by setting the opened can in a saucepan of boiling water, covering it and cooking it for twenty minutes. Slip the fish carefully onto a folded napkin and serve with it some one of the regulation sauces. Allow a can of salmon for three persons, if served hot.

Various Entrees.

For most of these a sauce is necessary, and it is better to use a drawn butter than a sauce containing milk or cream. Most people like a suspicion of acid with fish, either lemon or vinegar, neither of which exactly agree with milk. An additional quantity of butter makes the sauce quite as rich as any cream sauce.

The most obvious entree is made by heating the salmon, carefully freed from skin and bone and picked up, in the

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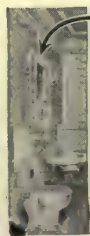


Table Chat—Continued

sauce, seasoning it highly and using it to fill baking shells of some sort. Cover the shells with crumbs and reheat them in the oven.

For jellied salmon, remove skin and bone and divide the fish into inch pieces. Make a pint of very acid lemon jelly, without sugar, using gelatine, grating into it a cucumber. The cucumber may be run through the chopping machine after it is peeled, with less trouble than grating.

Let the jelly get cold, but not set; pour it an inch deep into a mould and set into a cold place till it is slightly stiff. Then put in a layer of salmon, arranging the pieces neatly and pressing them down into the stiffened jelly. Pour in more jelly, let it stiffen and repeat the process till the mould is full. When the jelly is perfectly firm, turn it out of the mould onto lettuce leaves, arranged on a platter, garnishing with hard boiled eggs.

Not everyone makes a good Newburg sauce, but it is very good for salmon. While Newburg preparations are usually prepared and served in the chafing dish, they are equally suitable for use with a casserole and the earthenware retains the heat so well that it is almost as good as the more expensive chafing dish.

You need a casserole for another preparation of salmon which calls for one of the small cans of tomato paste, sold in Italian groceries. For this the fish is divided into convenient pieces and arranged in the casserole, each layer sprinkled with paprika, salt, chopped onion and, if available some canned or dried mushrooms. Dilute the can of tomato sauce to the proper consistency with hot water, salting it if necessary, and add a piece of butter. Pour the sauce over the fish, cover the casserole and cook two hours on the side of the range, or in a very slow oven.

For salmon croquettes, add to the finely picked fish one half its bulk of cooked spaghetti, chopped fine. Proceed as for any other sort of croquettes. Salmon cutlets only varying from croquettes in being pressed out into a flat shape. Either should be served with a sauce of tar-

Some Novelties in Dinner Services.

In looking over recent importations of china, one notes a tendency to more decided color effects. Even the Limoges porcelains have a more positive air. The floral decoration is not stronger in color, but there is more of it, and the pattern is emphasized by much gold in borders and handles. To many people this china represents the acme of dainty distinction, but most of it is too characterless to approve itself to an artist.

The English potteries excel in artistic wares at a low price. The blue willow of Staffordshire is typical of many of these wares. Its covered dishes are specially satisfactory and remarkably inexpensive. Another variety has much the same effect, but its design is Indian instead of Chinese. This is called Indian Khyber. Still another variation, in a more expensive ware, has the willow pattern on a white ground worked out in scarlet, black and gold and is most effective. A color not often found is a rose red and this is seen in one of the German wares, a half inch band covered with a diapering of gold edging all the pieces.

For the country house dining room, whose scheme of decoration includes flowered cretonne hangings, or possibly a flowered wall paper, there is an English porcelain service, at low cost, in the immediate neighborhood of \$15, whose floral pattern in rather bright colors recalls the far more expensive Dresden.

German and French Stone Ware.

Much imported stone ware in green has been put on the market lately. It is a little less suggestive of the kitchen than the customary brown shade, while costing rather more. Some is a dark green and there is a medium olive shade, which is very pleasing. There are all sorts of casseroles and marmite pots, custard cups and ramekins, and a good variety, as to size, of chocolate, tea and coffee pots. Many of the coffee pots are of the French variety, practically tea pots fitted with a percolator. They fit in capitally with the popular green scheme for dining rooms. As coffee makers, too much cannot be said in praise of them. They have the transcendent merit, denied to metal, of keeping the coffee hot.

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ROOM



Third Annual Cement Show.

THE cement show is now being held at the Coliseum in Chicago. It began on February 18th and will close on the 26th. Particulars of special railroad rates of a fare and one-half for the round trip with a time limit March 2nd are announced in another column of this issue. This is the greatest cement show ever given.

Phenomenal Growth of Cement Industry.

The growth of the cement industry in the United States has been one of phenomenal rapidity. Ten years ago the business of making cement was confined to a number of comparatively small mills. Today the output and consumption is upward of 50,000,000 barrels annually, valued at a little over \$1.00 a barrel, and cement constitutes one of the ten leading mineral products of the United States. Concrete is coming into general use in building of every kind.

Over 25,000 tests have been made by the Technologic branch of the U. S. Geological Survey of plain and reinforced concrete beams, columns, and blocks, under every possible condition, to determine their tensile and crushing strength and fire-resisting qualities.

To accomplish these tests a number of heavy machines have been used, several of 200,000 and 300,000 pounds, and one of 600,000 capacity. There is now nearing completion at Pittsburg, the largest machine in the world for testing the strength of structural materials used in great buildings and engineering works.

Process for Painting Concrete Surface with Oil Paint.

Take one part of commercial sulphuric acid to one hundred parts of water and with this solution paint the concrete surface twice. Then rinse thoroughly with clean water and after the surface has dried apply the oil paint. In this process the alkali and lime is transformed into a harmless sulphuric combination, this process has produced very satisfactory results.

Use of Nails in Concrete Reinforcing.

M. S. Moissieff, a well-known engineer in a paper read by him recently at an engineering conference at Atlantic City, stated that little attention had been paid to the methods of reinforcing concrete with nails, because on its face it would appear to be very uneconomical and would not promise to be a commercial success. He recounted some interesting observations made with reinforcement of this character. This occurred through the necessity of filling the compartments of a large steel casting with a material of that character. The casting formed a pedestal of an important bridge in New York City and it was suggested that concrete reinforced with wire nails, or cut wire, be used and tests of the material followed. The results of these tests were so satisfactory that concrete reinforced by wire nails was adopted for the filling of the casting. A table of results were also given. Aside from the practical considerations of utilization, the tests have a theoretical bearing, and illustrated how

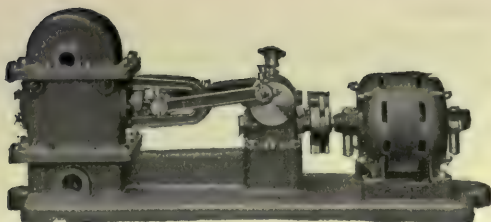


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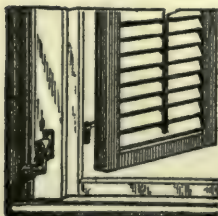
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Cement—Continued

the compressive strength of a material may be increased by reinforcing its shearing resistance. The nails reinforce the shearing planes in all possible directions and thereby develop the high compressive resistance of the material, thus throwing some light on the internal stresses of a body in compression. The high cost would preclude the use of concrete so reinforced to any considerable extent.

Attractive Surface Finish for Concrete.

Erect forms of rough boards by the usual methods, in courses of 3 ft. or less. Plaster inside of forms with wet clay, work to a plastic consistency which will adhere to the forms. Corners may be rounded by this method, and by indentations bead work and other designs can be accomplished.

While the clay is wet, apply evenly, loose buff, red or other colored sand, after which, pour in the concrete by the same method as applied to ordinary wet concrete construction, remove forms in usual time and after clay is dry, wash off the clay with water and if necessary scrub slightly with a brush. The sand will thus adhere to the concrete giving a surface of pleasing color and texture. —Vulcanite Portland Cement Co.

CIVIL SERVICE EXAMINATION.**Topographic Draftsman.—Copyist Topographic Draftsman.**

March 9-10, 1910.

The United States Civil Service Commission announces an examination on March 9-10, 1910, to secure eligibles from which to make certification to fill two vacancies in the position of topographic draftsman (male) in the Coast and Geodetic Survey, one at \$1,000 and the other at \$900 per annum, and vacancies requiring similar qualifications as they may occur in any branch of the service.

The salary of the position of topographic draftsman ranges usually from \$1,000 to \$1,500 per annum, and for copyist topographic draftsman from \$900 to \$1,500 per annum.

Both men and women will be admitted to this examination.

Applicants should at once apply either to

the United States Civil Service Commission, Washington, D. C., or to the secretary of the board of examiners at any large city, for application Form 1312. No application will be accepted unless properly executed and filed with the Commission at Washington. In applying for this examination the exact title as given at the head of this announcement should be used in the application.

Reduced Rates to Chicago**On Account of the Third Annual Cement Show
February 18-26, 1910**

The railroads in the Central Passenger Association territory, as enumerated hereinafter, will make a reduced rate of a fare and one-half for the round trip on the certificate plan where the one way rate is \$1.00 or more. Going tickets may be purchased on any day, February 15-24, inclusive.

The railroads in the Trunk Line Association territory will make a rate of a fare and one-half for the round trip on the certificate plan. Going tickets may be purchased on any day, February 15-23, inclusive.

The railroads in the New England Passenger Association, will make a rate of a fare and one-half for the round trip on the certificate plan. Going tickets may be purchased on any day, February 15-24, inclusive.

On the *going* trip in all cases *full* fare must be paid and a *certificate* obtained from the agent, in addition to the usual ticket; if he does not offer you a certificate ask him for it, account Chicago Cement Show. Present this certificate to the Validating Agent at the Coliseum in Chicago, any day, February 18-25, inclusive, between the hours of 9 a. m. and 9 p. m., when the certificate will be validated promptly, a fee of 25 cents being charged by the Validating Agent. This *certificate* will entitle you to purchase at the railroad ticket office a *return* ticket for *one-half* the regular fare, the return limit being March 2.

Frost will damage fresh concrete, but after the work has stood for three or four days, it is proof against severe cold.

White concrete can be made by adding to a base of one part of white cement two parts of fine, white sand. This concrete may be polished so that it will closely resemble marble.

80% PROFIT

Is the record we submit to manufacturers of cement

**Roofing and Floor Tile
MADE UPON OUR MACHINE**

No other machine does the same work in the same way.

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DETROIT Combination Gas Machine

Here is a lighting system that not only means good profits for you but it will give the most satisfactory service to your customers.

The best light for residences, schools, churches, factories, etc., especially where city gas or electricity are not available.

This system of lighting is cheaper than any other form of light and gives perfect results. A gas plant complete in itself right in the house. Perfectly safe. Examined and tested by the Underwriters' Laboratories and listed by the Consulting Engineers of the National Board of Fire Underwriters. The gas is in all respects equal to city coal gas, and is ready for use at any time without generating, for illuminating or cooking purposes. The standard for over 40 years. Over 15,000 in successful operation.

The days of kerosene lamps are over. Why not sell this light in your community? Write for information, prices and 72-page book, "Lighting for Evening Hours."

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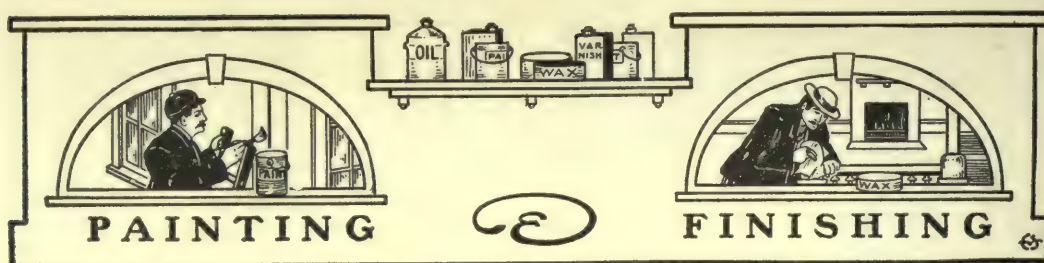
INTERIORS BEAUTIFUL

A Very Choice Collection of 182 Interesting Rooms



THERE is a fascination in seeing the inside of other people's houses, particularly where taste and the artistic atmosphere prevail. We have examined hundreds of interior views and selected from them 182 of the best, each one of which has some special feature of interest and merit. A group of modern Halls, Stairways, Living Rooms, Dens, Fireplaces, Dining Rooms, Bed Rooms. Be sure to order this book and add to your ideas for interior treatment, style of fireplaces, cozy seats, wall decorations, price \$1.00. **THIS BOOK WITH KEITH'S FOR ONE YEAR. \$1.75**

M. L. KEITH, Lumber Exchange Bldg., Minneapolis



Paint and Varnish Remover.

WHERE it is desired to do a good job of refinishing, whether a house or a chair, every painter knows that it is necessary to remove the old finish clean to the wood. Only by so doing can a first-class refinishing job be done. It is, of course, sometimes more expensive to do the work in this way, as more material and labor is required in doing the work, but where any really good job is wanted, by that large and increasing class of people who desire to keep their buildings in the best possible condition the extra cost is a small matter compared with the satisfaction of having the work properly done. Of course, where the surface is reasonably smooth, it is possible to clean with the burner or scraper, but this is often hazardous, and is objectionable and a nuisance, especially in dwelling houses and office buildings. The burner often causes damage by fire, and the marring of the wood by careless workmen is inevitable.

It is difficult to say what quantity of remover is needed for any particular job, as much depends upon the age and the number of coats to be removed. The standard removers now on the market, when flowed on the surface with a brush, will penetrate quickly the ordinary varnished or painted surface and the old finish may be wiped off with cloth or waste within three or four minutes after application. If there are many old coats, it will take longer, and in some cases it is best to let the remover remain on the surface an hour or more. Some painters make the mistake of putting on just a little of the remover over a few square inches of surface to be refinished and then wipe up as they go along. This method requires much more time and more remover than by flowing the remover on, allowing it to remain the re-

quired length of time and then cleaning off.

After the remover has been applied to a painted or varnished surface, you will notice that the remover goes down through the finish and the surface becomes alligatored. If, upon trying a small place, it appears that the under surfaces have not been affected and sufficient remover has not been applied to affect them, do not remove the first application, but add a second application and allow the remover to stand twice as long as did the first application. If sufficient remover is applied to the surface, it will go through any number of coats in a few minutes and can then be wiped or scraped.

Sometimes it is asked if it is an economy to use paint and varnish remover on the outside of buildings. Sometimes it is and sometimes it is not. We find that some of the paints used on outside work become baked and hard and it is almost impossible to remove them with solvents, torch or scraper. Whether it is an economy to use remover on the outside of a house can only be determined by trying remover on a small part of the building. If it is seen that the remover readily takes hold of the paint and lifts it, it would then undoubtedly be a real economy to use remover. If the remover does not take hold, the painter will probably find that it is also difficult, if not almost impossible, to scrape the surface. It would be well to be careful about taking a contract to remove the old finish from a house that is in this shape.

Users of paint and varnish remover will find it an economy to apply the remover freely, as what is wanted is prompt and effective action in going through the old finishes, and, in order to do this effectively, you must apply sufficient solvent to go through the surfaces of the finishes. It is not an economy to apply too small a quantity of remover.

Right Painting Preserves Property



PAINT is more than *color*, and more than *appearance*. Permanency and protection to the surface covered are of *first* importance. The variation of color should be taken care of only after these are assured.

¶ Pure white lead and linseed oil are the recognized basic necessities of paint. Why? Because they form a perfect union and, when mixed, have the quality of penetrating the surface covered and becoming a part of it. Such paint never cracks or scales. It wears down uniformly and the surface is ready for repaint-

ing without scraping or any preparation other than brushing off the dust.

¶ Use National Lead Company's pure white lead ("Dutch Boy Painter" trademark), have it mixed with pure linseed oil, and your painting *must* be economical because it will last. It will also be beautiful. Ask the painter who takes pride in his profession if this is not true. He knows.

¶ National Lead Company's pure white lead is the best known and enjoys the largest sale in the world. It is exactly what we say it is—pure white lead containing no chalk, barytes or any of those other subtle adulterants which make painting an expense.

¶ If you paint our way you secure both beauty and durability. Write us for our "Dutch Boy Paint Adviser No. K.E. Complete color schemes—correct methods. Free.

Our Pure White Lead ("Dutch Boy Painter" trademark) is now packed in steel kegs, dark gun-metal finish, instead of in oak kegs as heretofore.

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 (National Lead and Oil Company, Pittsburgh)

Painting and Finishing—Continued

All large consumers use it freely and find it an economy to do so.—Extracts from paper by J. P. Floen.

Coloring Wood by Inoculation.

A correspondent of one of our exchanges says: "For several years I have been working on a process of coloring timber by inoculation and have now brought it to a state of perfection, whereby I can color wood almost any desired shade of any size and length of tree when the tree is alive and standing; in fact, I furnish the chemicals, and nature does the rest. I do not even deaden the tree, nor change its outside appearance. The roots are inoculated with chemicals with the desired color, the sap passing it along on its way to the leaves and colors the most minute fibers; in fact, the color is part of the tree itself." The correspondent says, further: "I can also deposit any odor in any tree and make the wood so strong with camphor that no moth would enter the chest where the wood is impregnated with the camphor and again give it the odor of the most delicate perfume. Chemicals can also be put in the trees in such a way that they mix beautiful tints and markings." —Carriage Monthly.

Paint's Fourth Function.

To the preservative, decorative and sanitary functions of paint a fourth field has been opened, for Paint, the Moral Agent, according to a recent story in a Paris paper which declares that the latest Parisian reformatory methods apply the "paint cure" to moral delinquents. This will be interesting news on this side, where reform efforts have been centered upon the point. Here's the story:

"A husband who had been living inharmoniously with his wife consulted a doctor. No cause being found for disagreements, the doctor visited the patient's home and there found red paint on the walls. The doctor ordered a change.

"'Red paint,' he said, 'excited the temper, try the blue,' which soothing experiment was made and the temper of the wife became as angelic as ever before.

"The physician says a blue room will tame the most exacting shrew."





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The writers, selected by Architect Fred T. Hodgson, Editor, cover the entire building field.

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Colonial Designs



IN the selection of hardware trimmings for a Colonial house, harmony should prevail between hardware design and architectural style. The new-old-fashioned knocker and door-latch here illustrated are splendid examples of the appropriateness and unusual excellence of

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for homes of the Colonial type. The latch and cylinder lock also show how modern security and convenience can be combined with old-fashioned appearance.

Besides nearly a score of Colonial patterns, Sargent's Hardware is made in designs to harmonize with all periods and schools of architecture—for interior and exterior.

If you are building, get

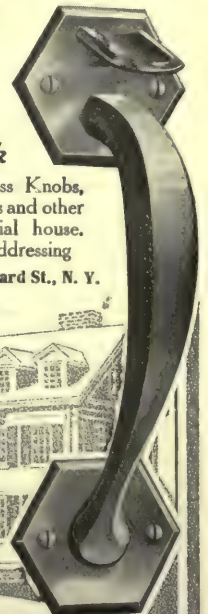
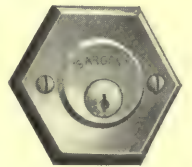
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—also free—shows Cut Glass Knobs, Door Handles, Door Knockers and other fittings adapted for a Colonial house. Write for the books to-day, addressing

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Quality of Sand Lime Bricks.

H. B.—Am about to build a house and would like you to advise me about the use of sand lime brick. They have been recently called to my attention but I would like to know if they are equal to clay brick. I like the appearance of the samples submitted but wish to make no mistake.

H. B., Ans.—We have seen a great many samples of sand lime brick and have also noted it in the wall. A lot of comment from different sources has come to our notice and from this information we are able to reply as follows:

Clay bricks have long been used for structural purposes, and while they have given splendid service, they lack some of the important advantages possessed by some other kind of bricks.

Among these the sand-lime product has claim to recognition. Sand-lime bricks have long been used in some countries, particularly Germany, and it appears that when the materials are first-class and the manufacture of the brick is understood, the result is generally satisfactory.

These bricks work well in structures, have a considerable carrying capacity, and will withstand a great heat. They are also water-proof.

For residence work they seem to have no fault except that they are more difficult to lay than clay bricks because they do not have the same suction. In factory buildings they have been a failure because the vibration from machinery and the slamming of heavy doors causes the mortar to loosen. Even a rich cement mortar does not hold them as well as it does other bricks. Sand-lime brick is composed of good lime and clean sand, or some other aggregate, such as ground marble, crushed granite, and kindred materials. These are carefully mixed and pressed. Perhaps the great-

est difficulty in the manufacture of the brick is in the proper selection of lime. The best lime for the purpose is rich in magnesia, and it must be fresh. It is crushed, the sand is added, and the mixture is run into the press in uniform amounts. Special machinery is employed. The bricks pass from the powerful press into a form of kiln termed a "hardening cylinder," where they remain from eight to twelve hours, and in which the materials are fused. The bricks can be used as soon as they are cool. The above is a mere outline of the process, there being a number of technical details demanding great care.

When the bricks are made with white sand they are often called granite or silicate bricks.

An Inquiry from Japan.

S. I.—Respected Sir. I read in your honorable magazine at our government school, of the very agreeable woods in your large country. It is my intention to engage in manufacture and will, in my pleasing occupation, require to make some very good purchases of these said woods. Is the cost value kindly established by the attraction of gravitation, or the area of the several dimensions. Too much expensive space I wish to eliminate, but will appreciate news of woods both affectionate and cheap.

S. I., Ans.—We are pleased to be of service to a reader at so great a distance. Most woods in the U. S. are sold by bulk or as we term it, cubical contents. The quality of the wood determines the price per cubic foot or superficial surface. While in some instances and under some circumstances other methods might be of advantage to purchasers, the manufacturer, and the persons owning the timber lands, yet it is the established rule with us and is not likely to be changed.

In some countries wood is bought by weight, and the buyer comes more nearly



Asbestos "Century" Shingle Roof—Residence of Rufus Choate Porter, Dallas, Texas: J. E. Flanders, Dallas, Architect; Wm. F. Nicholls, Dallas, Superintending Architect; George Dodson, Dallas, Contractor

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"The Roof that Outlives the Building"

THE ARCHITECT or Builder who has been used to regarding all roofings as a choice of evils should learn about Asbestos "Century" Shingles—*the first roofing material that grows progressively better under exposure to the elements.* Asbestos "Century" Shingles are dense and elastic shingle-like sheets, made of hydraulic cement—reinforced in every direction with interlacing asbestos fibers.

Dampness—rain and snow—freezing and thawing—hasten the maturing of the cement. Make the Shingles tougher and harder.

Asbestos "Century" Shingles protect the building and *need neither painting nor repairs.*

They cannot rust like tin—or decay like wooden shingles—or crack and split like slate—or hold moisture and rot the roof timbers like tiles.

Made in three colors, numerous shapes and several sizes. Ask your Roofer for new quotations. Write for Booklet, "Reinforced 1910."

The Keasbey & Mattison Company

FACTORS

Ambler, Pennsylvania

Answers to Questions on Construction—Continued

getting what he bargains for; but even then he may miss it if he receives green wood when he wants dry. According to timber testing engineers of United States Forest Service, wood may lose half or more its green weight in seasoning. Cedar for lead pencils is bought by weight in this country. The pieces are so small and of such irregular size that they can not conveniently be stacked and measured as cordwood.

The bulk of nearly all woods decreases as seasoning goes on. A hundred cords green will make from 89 to 93 cords when dry. This is a factor of no small importance to dealers who handle large quantities.

Woodlot owners and farmers who have small forest tracts from which they expect to sell cordwood, are no less interested than contractors who buy and sell large quantities. It will stand them in hand to know how much difference it makes whether wood is cut long or short, chopped or sawed, whether the sticks are round or split, whether large or small, and whether the measurements are to be made while the wood is green or after it is seasoned.

E. H. B. Kindly tell me the best material to line a house the inside of which is

formed of narrow beaded wooden boards. I have used cardboard and covered the latter with wall paper and with good success, but I would like to know a substitute for the cardboard, or the best quality of cardboard to use.

Ans. E. H. B. We think probably the best solution of your problem would be the use of cheese cloth glued to the cardboard. This will give you a base for applying the wall paper.

How to Stick Leather on Metal.

H. K.—I will be obliged if you will give me the formula for a good cement to attach leather to metal.

H. K., Ans.

In order to fix leather to metal, dilute one part (weight) coarsely crushed gall nuts with eight parts (weight) of distilled water about six hours, and filter through linen. Then pour one part (weight) of cold water over one part (weight) glue, let it stand for 24 hours and heat the whole, whereby a concentrated glue solution is obtained. Now coat the leather with the warm gall nut extract, bring the glue solution on the roughened and warmed metal, lay the leather on it, press it firmly, and allow to dry in the air. The leather will adhere so firmly to the metal that it cannot be separated without tearing it.

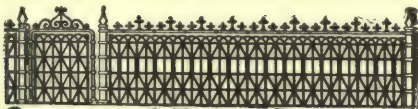
Cement Uniting Wood or Stone to Glass or Metal.

Z. N. A.—Can you give a good formula for a cement which will unite wood or stone to glass or metal. To be of use for my purpose it should be tough, harden quickly, and not shrink after setting.

Z. N. A., Ans.

"The simplest formula we know of, is to mix monoxide of lead, known as litharge or massicot, preferably the latter, which comes in a yellow powder, with enough glycerine to make a paste of the desired consistency, and use it immediately after mixing. This cement may be colored by adding dry colors in small portions, but these must not be more than 10% of the quantity of the massicot or litharge used or it will prevent quick setting. Gentle heating will make it set in a few minutes, and then it will resist both pressure and heat."

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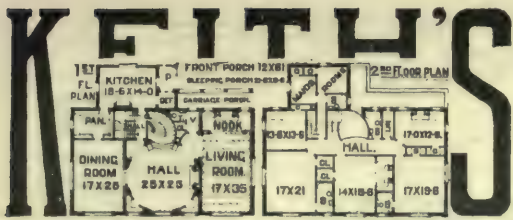


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The regulation of the humidity is especially important. It is humidity and not real heat which is responsible for so much of the discomfort produced in the warm months of the year. A hot air furnace should always be equipped with an automatic humidifier of the right size. If it has this equipment, the proper degree of humidity can be assured in the home. If no humidifier is applied to the furnace, the water pan should be kept full of water, and a small can, or bucket of water should be hung under each register. If the home is heated by either steam or hot water, the indirects should be equipped with a perforated pan humidifier, which is not expensive, and is so made that, while it will furnish a large volume of moisture in the air, it will not interfere with the heat.

The most important of all the requirements for controlling and regulating the heat is the ventilation. All ventilation must begin with the removing of foul air. Homes with fireplaces have a first-class exhaust vent if properly used. If the fireplace is built solely for ornament, the top of the flue should be capped with non-down draft vent head. In homes heated by stoves or hot air, a light fire

of shavings or paper built in the fireplace will start the draft upward, and the exhaust vent will be completed. Much better results can be obtained where the fireplace can be used, as a light coal fire, or the heat from a gas log creates a strong updraft. In homes heated by steam or hot water, a positive updraft can be maintained in the fireplace by running an aspirating pipe up the flue.

One bedroom, at least, should have an exhaust vent for cases of sickness. The living room in homes built without vent flues and heated by stoves, will have to depend upon window ventilation and the fireplace for fresh air and ventilation. When possible the window vents should be placed so as to get cross circulation, by putting a small vent in two windows, placed opposite each other in each room. If this is not possible, there should be two vents of a larger size placed in two windows as far apart as possible. This method of ventilation is more expensive in fuel than that by aspirating vent flues, but it is worth the price in the health and comfort which it provides in the long run.

Regulating Noise from Plumbing.

A very disagreeable feature of plumbing work in the home is the noise due to the operation of plumbing fixtures. In many residences the operation of the water closet in the bathroom can be heard all over the building. Such noise, however, is unnecessary, and can be avoided by intelligent design of the system and judicious selection, of fixtures, says a writer in a recent issue of Shoppe's. It is well to be acquainted with the various closets that are on the market, so that when a noiseless one is wanted it can be specified by catalogue plate and number. But even when the closet is noiseless in operation, noiseless plumbing is not assured unless the supply and waste pipes are likewise propor-

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Heating and Plumbing—Continued

tioned to their several uses. If the supply pipes are too small, there will be a disagreeable hissing sound when water is being drawn, not only at closet fixtures, but at other points in the building. Further, if the pressure is high and properly designed faucets or suitable air chambers are not provided, there will be a pounding noise when a faucet is closed, due to water hammer. These sources of trouble can be eliminated by using slow-closing faucets and large-size supply pipes to the various fixtures.

The noise of water from closet fixtures flowing through the soil pipe can be decreased in volume by using three-inch soil pipes in the partitions, and the remaining noise can be almost entirely done away with by filling the space around the pipe and between the laths and plaster of the partition with some non-sound conducting substance.

Laundry Fixtures.

In the moderate-priced homes the laundry trays are located either in the kitchen or in the basement, and much may be said in favor of each location. If the laundry is located in the cellar it necessitates an extra stove for boiling the clothes and imposes extra work on the servant carrying the clothes down to wash and up again to hang out, to say nothing of the extra steps that must be taken answering rings at the door bells. Further, it makes inconvenient the servant's work, for she cannot well do her washing and at the same time tend to the meals which are cooking. On the other hand, if the laundry is located in the cellar and well partitioned off, there is less danger of the steam and odor permeating the living-rooms.

In the larger, more expensive homes a separate laundry, located on the ground floor, adjoining the kitchen, will be found desirable. This will afford light, air and easy access to the yard to hang out clothes, as well as a direct means of approach to the outside doors, and supervision of the kitchen. The completely equipped laundry will have three laundry trays, a washing machine, either power or hand; centrifugal wringer or separator for removing the free water from clothes; a clothes drier and a gas-heated hand

mangle. Provision should be made in the yard for drying clothes in the open air during favorable weather, the driers being reserved only for stormy days. Of course, an iron stove, which can be used also for boiling clothes, and the usual ironing horses and other portable pieces will likewise be required, but the latter partake more of the nature of furnishings than fixtures.

Pressure System of Hot Water Heating.

Perry Weber Rathbun, in the "American Carpenter and Builder," declares that the excessive cost of many hot water heating systems is due to the large piping used, to overcome, as it is claimed, friction. He says he has found by practical experiments that, with pressure, either by the use of regulating valves, or mercury appliances, the pipe areas can safely be reduced 50 per cent, and the radiation 15 per cent, with tappings from 60 to 80 per cent smaller than are used with the old open tank system. The water under pressure can be run up as high as 240 degrees Fahr. without boiling, which gives such a system of hot water heating the efficiency of steam heating, without any of its disadvantages.

A pressure system contains from 25 to 30 per cent less water than the ordinary hot water system. This reduction causes the plant to be very responsive to firing, thus causing a quicker circulation and overcoming the slowness to heat which is very common with the old-style system. The quickened flow of water over the heated plates of the boiler absorbs heat more rapidly from the fire and delivers it quickly to the radiators which distribute it in the room.

Artistic Bath Rooms.

A well-to-do man whose new residence was recently completed, hit upon a novel plan for decorating the bath rooms. In one of them the floors and walls represent the bottom of the ocean. Marine plants and fishes are painted on a dark green background. In the other bath room the beach at Atlantic City is represented, and among the crowd of bathers are the man and his family. The work was executed by a well-known artist, and the likenesses are good.



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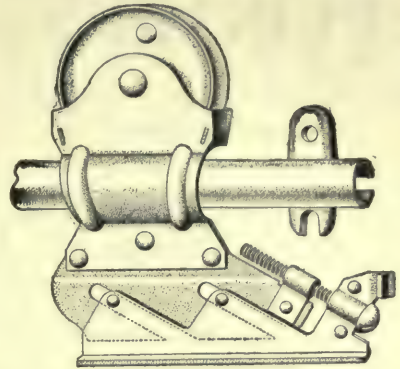
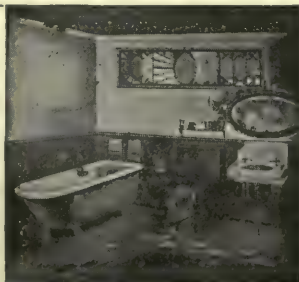
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SPLINTERS AND SHAVINGS

Announcement.

Mr. F. A. Hall, who for the past twelve years has been manager of the Chain Block & Hoist Dept., of the Yale & Towne Mfg. Co., whose general offices are at Nos. 9-13 Murray street, New York, and whose works are at Stamford, Conn., has resigned his position in order to accept election as vice-president and treasurer of the Cameron Engineering Co., of Brooklyn, N. Y.

Mr. Hall's successor will be Mr. R. T. Hodgkins, who for several years has been his chief assistant, and who is thoroughly qualified by experience and ability successfully to perform the duties of the position.

In his new connection Mr. Hall expects to make a specialty of trolleys and appliances for overhead handling of materials, and in connection therewith, to make use of the Yale & Towne blocks and hoists, with the sale of which he has so long and prominently been identified.

A Glass Brick Which Withstands Winter Weather.

The developing of a process by which glass brick can be made on a merchantable basis has engaged the attention of the inventor, C. B. Lawton, of Connellsville, Pa., for over two years. Last September he announced that a process had been reached by which glass brick could be successfully made in competition with enameled brick. The National Glass Brick Co., Connellsville, Pa., under the management of Mr. Lawton, determined at once to demonstrate the behavior of glass brick under extreme atmospheric changes, and last October finished a building all of glass brick, both inside and out, including partitions, using no cornice, lintels, sills, gutters or chimneys, except such as were made of glass brick. The winter's experience tends to show that glass brick separately filled with concrete will stand atmospheric changes. Glass brick partitions where center-poured with soft concrete will stand all the atmospheric changes that they will likely encounter in inside work.

It was also demonstrated that outside walls should not be center-poured, as the extremes of temperature are liable to cause cracks in either the fifth or sixth brick of each course because of the interlocking joint formed by the pouring of the concrete. As a result of the demonstration the makers have determined to ship all glass brick filled before leaving the factory except partition brick.

CATALOGUES.

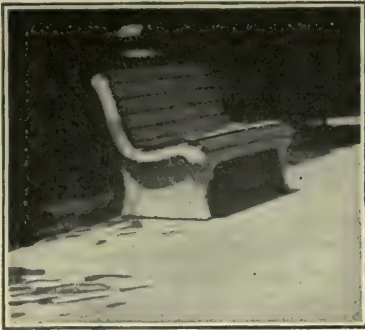
Asbestos Building Materials.

An instructive catalogue, No. 102, of the H. W. Johns-Manville Co. is at hand. It shows to what a large extent asbestos products enter into modern construction. Asbestos is illustrated in sheets as a roofing material, as shingles, as inside finish, as wall plaster, as stucco, as theatre curtains, etc. Of special interest to the home builder are the illustrated pages on Keystone insulation, insulating blocks and cold storage. Moulded closet seats and tanks are shown, which exactly represent any desired wood finish and are all in one piece. Much useful information is contained. Home office, Milwaukee, Wis.

Colonial Hardware.

Some beautiful examples of old colonial designs appear in a booklet of Sargent & Co., New Haven, Conn. The door knobs in brass and cut glass are very effective. Used with the proper key plates or escutcheons the proper feeling would be imparted to a room, which otherwise might be rendered ridiculous. Colonial architecture is something more than classic wood mouldings. Old-time front door handles in admirable patterns, supplemented with beautiful old knockers, will meet the requirements of the most fastidious.

For less pretentious positions, door latches may be obtained and for drawer fronts, drop handles are provided. The Sargent easy spring lock is shown and its good points enumerated. This booklet will help anyone to produce the right effect in a colonial house or room.



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This book is written in plain English, the desire of the authors being to present in handy form the best recognized methods of handling concrete. The text includes a number of articles, with plans drawn to scale, instructing the reader in different branches of concrete work, and a large amount of miscellaneous information on important points has been collected and thoroughly indexed.

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GLIMPSES OF BOOKS

A FEW carefully selected books will be reviewed on this page each month. A good book is a powerful influence in the creation of the home and we trust that Keith's will be an aid to our readers in the selection of a library.—Editor.

Miss Selina Lue.

By Maria Thompson Daviss.

This is the story of a dear old maid, who lost the only man she could ever love, by a premature explosion.

By way of compensation she manages to include the whole community in her love, and mothers all the babies whose real mothers need her help.

The love story of the beautiful daughter of an impoverished first family and the artist, son of a rich lumberman, is told in a simple, humorous manner, making one forget that there is anyone in existence, other than those with good intentions toward their neighbor.

The wholehearted goodfellowship of the artist makes him a favorite with all and nothing could be funnier than the inducements offered with a view to his permanent residence.

Think of an offer of sign painting with a possible job with an electric power company, to a man capable of painting a \$10,000 picture.

The Bobbs-Merrill Company, Indianapolis. Price \$1.00.

The Florentine Frame.

(By Elizabeth Robins.)

Some books are valued chiefly for what they are not. The Florentine Frame, a simple little story possessing good literary style, is a case in point.

A young professor of literature, writes a successful play and many of its early difficulties are overcome by the author's friendship with a lady of culture and refinement who is considered an authority upon the subject. She is a widow, wealthy, and the mother of a girl of sixteen. The three

form a very close friendship from which others are excluded as much as possible.

Another play is started, but does not make progress, the author finding it difficult to concentrate his ideas.

The friendship between the man and the woman seems likely to ripen into love, when a married cousin and her young husband arrive. As the wife of a young man, her efforts to keep a youthful appearance are ridiculous and in a way she is posed as the "horrible example."

At this time the mother discovers that the daughter is in love with the playwright and she holds him at arms' length, never allowing him to reach a formal proposal. Her daughter's happiness is her first consideration and the marriage takes place. Upon their return from abroad a telegram arrives announcing the death of the mother. The wife realizes that her husband has never loved her in the way she expected, but after a period they are united in the thought of the mutual love of the mother and the possibilities of the future. The book appeals to the literary sense rather than the desire for mere entertainment.

Moffat, Ward & Company, New York, price \$1.50.

A book on construction, *Light and Heavy Timber Framing Made Easy*, is at hand and should be of special use to the man who was obliged to get an education in the school of experience. To the average person who left school early, the ramifications of XYZ and PDQ are awesome things and conceal more than they reveal.

This book by Fred T. Hodgson aims to eliminate all this and explains methods of timber framing. The book contains 395 pages with an index to timber framing alphabetically arranged. There are over 450 illustrations and diagrams. The subjects covered range from joints in framing to difficult floor and roof construction, including trusses, bracing of walls, etc. Frederick I. Drake & Co., Chicago, Publishers. Cloth, \$2.00.

KEITH'S MAGAZINE

ON HOME BUILDING

WITH WHICH IS CONSOLIDATED

The Journal of Modern Construction

MAX L. KEITH, Publisher,

225 Lumber Exchange - Minneapolis, Minn.

Contents for April

	PAGE
SOME PLASTER HOUSES IN THE NORTHWEST	245
DECORATIVE MANTELS FOR RADIATORS	251
MODERN CONVENIENCES AT "101 RANCH"	254
CULTIVATION OF SPRING BULBS	256
AN ATTRACTIVE CONCRETE HOUSE	260
ODD FEATURES OF CALIFORNIA ARCHITECTURE	263
NOTES ON GARDENING	266
PROBLEMS IN CONCRETE	270
DESIGNS FOR THE HOME-BUILDER	274

DEPARTMENTS

DECORATION AND FURNISHING	292
ANSWERS TO QUESTIONS ON INTERIOR DECORATION	298
HOUSEHOLD ECONOMICS	302
TABLE CHAT	306
CEMENT	310
PAINTING AND FINISHING	316
QUESTIONS ANSWERED ON CONSTRUCTION	322
HEATING AND PLUMBING	324
SPLINTERS AND SHAVINGS	330
GLIMPSES OF BOOKS	336

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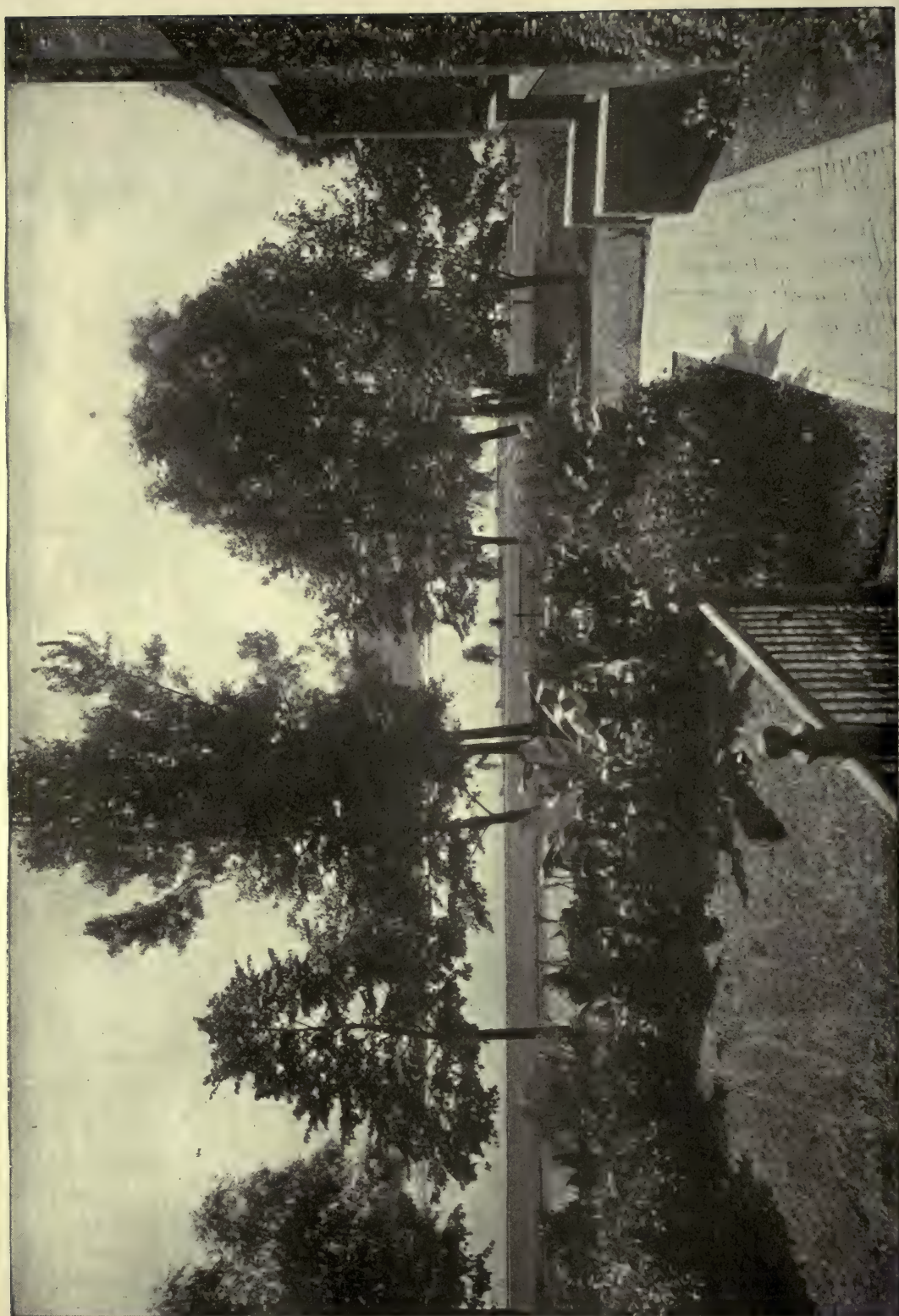
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LAKE VIEW FROM INTER-RESIDENTIAL GARDEN

KEITH'S MAGAZINE

Vol. XXIII

APRIL, 1910

No. 4

Some Plaster Houses in the Northwest



TRACEY AND SCRIVER RESIDENCES WITH GARAGE IN BACKGROUND

THERE are few more beautiful drives in America, than Lake of the Isles Boulevard as it winds around the three miles of irregular shore of the lovely sheet of water which is one of the gems in the park system embellishing Minneapolis, as a necklace of emeralds and pearls adorns a beautiful woman.

Fortunate are those who have secured building sites overlooking this charming drive, since now for this privilege, one must pay a great price.

Mr. Scriver was among the fortunate ones, having joint ownership with Mr. Tracy in 150 feet of frontage on this boulevard. The happy manner in which the two owners have joined forces to improve their property by one comprehensive and unified scheme, is illustrated in the accompanying photographs and plan of the houses and grounds.

The piece of ground with its 150 feet of circling frontage, narrowed to about 75 feet in the rear. Also, the ground rose steeply from the boulevard with a

grade of twenty feet. The owners desired the exterior design to embody as far as consistent with the northern latitude, features of Spanish American or Mission Architecture which had captivated their fancy in California travel and both houses must have garage accommodation for automobiles. Each desired the maximum amount of "view" and sunlight. The architect has solved the problem by setting the houses so that they diverge widely at the front and are brought together at the rear so that the double garage forms the background of the court between and closes a charming vista of the grounds. The garage is made part of the architectural scheme and the line of division between the houses as shown on the ground plan, divides the garage into entirely separate and distinct halves, each with its own equipment.

The garage itself, is half concealed from view by the landscape treatment of tall cannas and spireas in front of it, its red tiled roof beyond the green foreground making a picture upon which the eye rests with pleasure. The architect has added to the effectiveness of the picture by a happy use of red brick for the walks which approach the houses from each side and outline the court, also in the broad copings, steps and trim of the concrete retaining wall in front. The contrast of the red brick with the green grass and the grey plaster, gives life and interest to the whole thing.

Comparing the ground plan with the second illustration, a clear idea is obtained of the retaining wall with bricked terrace and steps, the separate flights of steps connecting with a central brick walk which again divides in front of the shrubbery and leads to each entrance. The ornamental iron screen at the top of the retaining wall gives partial seclusion from the passers-by on the boulevard below, while not depriving them of the

pleasure which every one feels in a glimpse of such a home—for if "all the world loves a lover," it is equally true that all the world loves a pretty place. There is a sentiment about home building as universal and eternal as lovers' vows.

These houses, though only forty feet back from the boulevard, are yet given an effect of retirement by the height above the street and the skilful handling of the space, while the omission of division walls gives a feeling of increased space to the grounds. The outlook in every direction is natural beauty of the most appealing kind, supplemented by just enough of artificial aid to make it most effective. The treatment of the house and grounds has aimed to utilize the beautiful setting and be in harmony with it.

The owners' choice of a concrete house was therefore favorable to this object, since a concrete house suggests strength and restfulness, while the grey surface relieved by the white trim and Spanish tile roof, affords a satisfying unity between the dwelling and the location. The deep cornice of the roofs, the entrance hoods and the exposed timbers of the Tracy house, offer certain lines of projection and relief and the softening effect of shadows on the wall spaces.

Part of the problem which confronted the architect was to design two houses alike, yet different; both suggesting Spanish design, yet conforming to American ideas of comfort and convenience. The first part of the problem was solved by the nearly identical interior arrangement developed in the one case by rounding exterior features and in the other by square projections. The houses show Spanish influence in the rococo curves of the gable faces, in the red tile roofs and in the minaret chimneys, but the type is much modified by American ideas

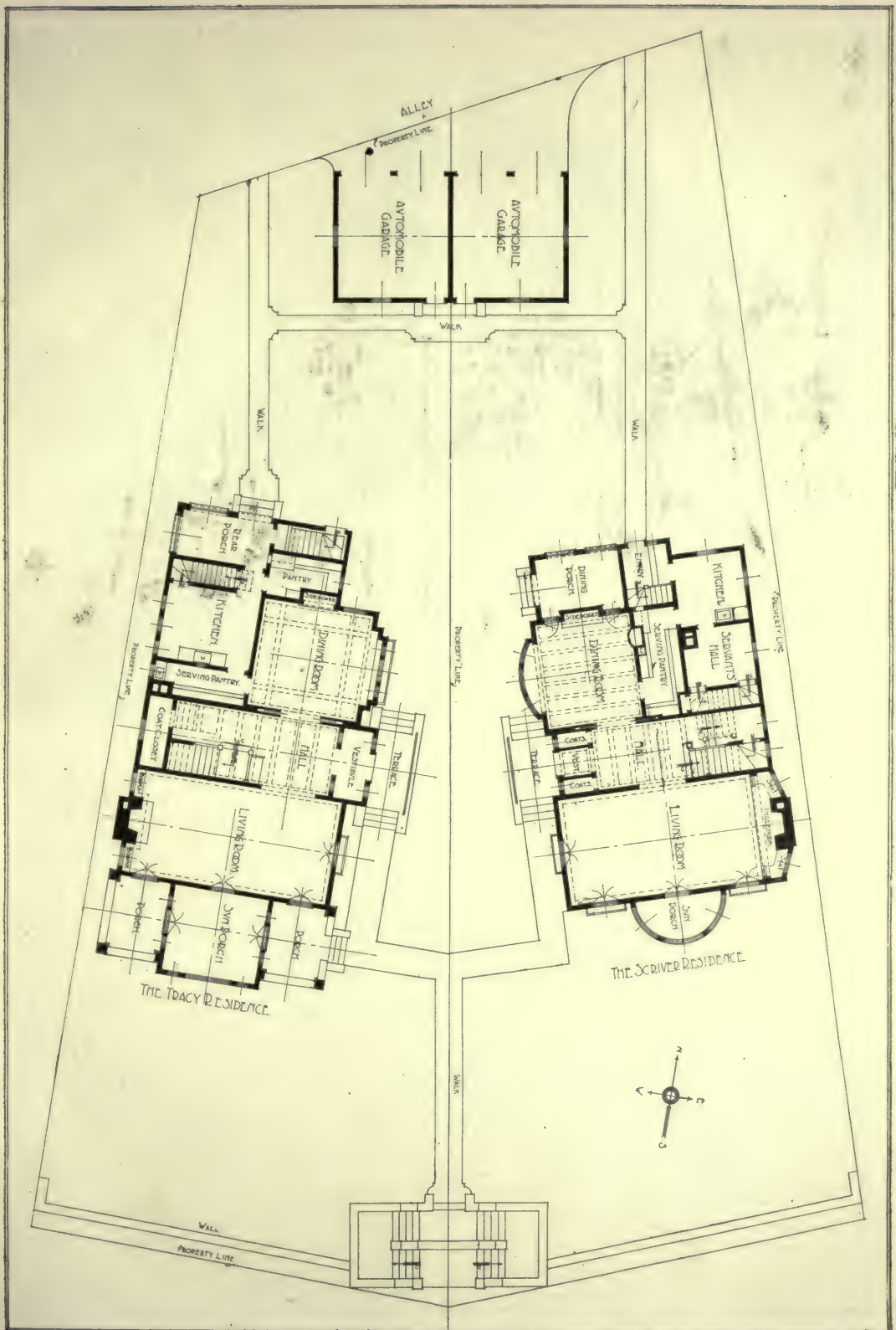


DIAGRAM OF GROUNDS AND FIRST FLOOR PLANS OF RESIDENCES



THE SCRIVER RESIDENCE AND DUAL ENTRANCE TO GROUNDS

and arched openings are freely mingled with square. There are people who object to the Spanish forms as not appropriate to our northern latitudes. Well, why not? California, to be sure, brought over the Spanish type, but northern Spain and Italy is as cold in winter as Minnesota—nearly. In fact, the climate is very similar to ours. A great Spanish artist on a recent visit to the United States said of us, "Your sky and atmosphere are more brilliant even than Spain's."

Interior views are shown of only one of the houses, that of Mr. Scriver's. The floor plan is developed in an interesting manner. The scale of the house itself is of generous description. The rooms are of ample size and arranged for convenience and agreeable effect. The central part of the house is given up to the hall and stairway, the ceiling heavily beamed. The hall opens to a brick paved terrace covered with a tiled roof hood. The vestibule and hall walls are enriched by

a decoration in oils in English Renaissance style, showing beautiful colorings in shaded bronze tones which harmonize with the rich Persian Iran runner on the stair. These tones are carried out through the adjoining living room and on through the upper hall into the upstairs sitting room where they are softened and lightened into the restful gray-green grasscloth which covers the walls. In this room are the bookcases and here is the family life. The room is given a light, cheerful character by furniture of natural wicker upholstered with an English chintz in bright colorings. Hangings of the chintz are used at the windows.

Returning to the first floor, we pass into the living room where the woodwork, as in the hall, is dark mahogany. Here the walls are hung with a genuine antique tapestry, whose soft, dull sheen is heightened by the draperies of bronze green velour bordered with antique gold

banding. Through tall glass doors with arched tops, one steps out upon delightful little balconies and these doors have French shades of pale ecru Sun-dure. The wide chimney breast, with its recessed nooks on either side, occupies one entire end of the room with the broad hearth in front raised six inches from the floor and forming a sort of dais which also carries across the room. This hearth and the fireplace facings above it are laid with Moravian tile in artistic shadings of dull red which blend with the rich colors of the immense Turkish rug.

There is an Elizabethan dining room with wall decorations in oil fresco carried out in the geometric design belonging to the type, put on with many shadings, overlapping and producing a very rich effect. The room is really built around the beautiful Italian carved buffet, a rare and much prized possession of the owner, and the Elizabethan treatment is its suitable setting. The dining room proper opens into a small out-door breakfast

room with a brick floor; a sleeping porch is above.

But the spot beloved by the household, is the sun-room, above the rounding front porch, which is fitted up with radiators and electric lights, making it perfectly comfortable in the coldest winter day, even without the sunlight which floods the place.

In truth, a winter's snow storm is always a drawing card here. The great, white world outside is a most enticing contrast to the warmth and coziness within, with green things growing in wall baskets and jars. The walls of the sun-room are of grayish green plaster with white woodwork and a water color decoration of ivy vines runs along the ceiling angle. This ivy vine decoration is scarcely distinguishable from the real ivy which grows in wall baskets of Shinto brown wicker and is trained across the window frames. The windows have no other shades or curtains than Venetian blinds, raised and lowered at will



THE LIVING ROOM

and indifferent to sun or rain. The furniture is green wicker. "When we sit out here at night," says Mr. Scriver, "the world seems far away and remote. It is so still, only the swift flash of auto lights speeding by, or the silent gliding of boats over the lake in summer, the dark outlines of the trees penciled against the sky—and the silence." Such is the charm of this location, sequestered—yet in the heart of a great city.

Although the houses have been built but one summer only, the creepers and shrubbery plantings at their base already lend softness and grace. It is a mistake to cover the walls and windows of a dwelling too completely and thus hide the beauty of its own lines and surface. This error has been avoided, though extensive plantings will give more luxuriant growth in the near future. In the spring, the central flower bed as well as borders along the wall and the walks, will be ablaze with the glow of red and yellow tulips already planted.

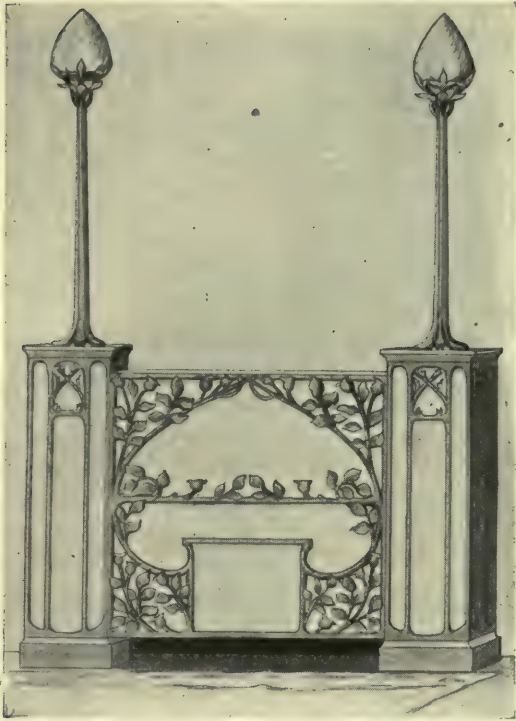
These houses illustrate forcibly the advantage of allowing the functions of the architect to extend beyond the mere planning of the dwelling itself. A house planned without reference to its surroundings lacks a very essential element of success. It is with pleasure that we note the growing tendency among clients to constitute their architect an advisory board, not only as regards the grounds about the house, but as to its details of interior decoration and furnishing. Nor should it be forgotten that the correlative duties of their relation are equally important and that if the architect request and accept such a trust, he must be well fitted and equipped to discharge it. It is one thing to advise a client to spend money; it is quite another to help him to spend it consistently and well. Such additional responsibilities involve study and alertness along many lines not always supposed to belong to the architect's equipment, as well as practical information and experience.



THE ELIZABETHAN DINING ROOM

Decorative Mantels for Radiators

By Arthur E. Gleed



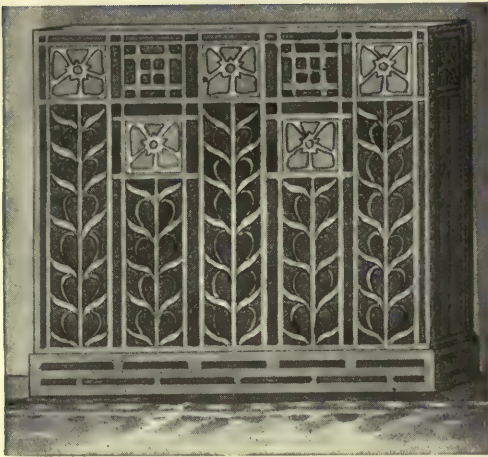
DESIGN FOR A RADIATOR MANTEL OF
WROUGHT IRON LINED WITH BRASS
WIRE GAUZE

THE useful and necessary radiator is, in most well decorated houses, distinctly out of harmony with the rest of the appointments. In winter its welcome warmth makes it tolerable, but in summer its common-placeness increases to absolute ugliness. Its mechanical construction practically prevents it being specially designed and varied to suit the requirements of each room, but there is no reason why the working parts should not be covered by a mantel, which could not only be in harmony with the surroundings, but

could be made an artistic feature of the room.

In designing a useful necessity the main idea to be kept in mind is not to interfere with the utility of the object, and not even to disguise or hide its existence, but rather to make its purpose a thing of beauty. In the present case, we must bear in mind that a radiator is a source of heat, and any cover or mantel we make must not in any way prevent it radiating heat. The materials we use must be of a kind that will stand heat and even to a certain extent suggest it. Wood, owing to the ease with which it warps, would be out of place, as also would all textiles. Metals of all kinds are perfectly suited to the purpose, and their ideal construction is in the form of grilles, open wrought or cast patterns, pierced work, and wire gauzes. To these may be added, by way of relief and ornament, earthenware tiles and polished stone such as marble. With these materials at hand, and if the utility side is given due consideration, and the design so planned that every opportunity is given to allow the heat to radiate, then there is endless scope for the craftsman to construct mantels that will accord with the most elaborate scheme of interior decoration.

Figure 1 is a suggestion for a mantel to be used in an interior of large proportions, such as an entrance hall of a public building or a ball-room. It is designed to serve as a source of light as well as of heat, a combination which is to be greatly recommended, as it seems entirely natural to find the two together.



RADIATOR MANTEL OF CAST IRON WITH
GLAZED TILE

Its construction consists of a wrought iron framework, lined on the inside with brass wire gauze. The main lines of the design would need to be heavy to give adequate support to the two electric light standards, but the floral design and minor parts could be as light in construction as was consistent with the design. If the radiator was against a wall there would be no necessity to have the back of the mantel filled in, but otherwise the same design as the front would be repeated on the back. A dead black finish would be serviceable for the iron framework and in conjunction with the dull gold color of the brass gauze would be very effective. If a richer appearance was wanted, for such a position as a ball-room or a theater vestibule, the design could be carried out in dull bronze for the framework, with the gauze gilt a pale shade of gold, and this with amber glass shades for the lamps would look extremely rich.

Figure 2 is a mantel of simpler construction and if made of cast iron its cost would be quite moderate. The glazed tiles used form part of the complete design by being a simple blossom pattern to crown the upright leafed stems of the grill work. The note of color in the tiles could also be turned to advantage by re-

peating the color scheme of the room. At a little more expense a richer effect could be got by making the grill work of wrought iron with a bright finish and lining the mantel with brass wire gauze. In this and in the preceding design one end of the mantel would open as a door to allow the regulator of the radiator to be adjusted as desired.

Figure 3 is a design of much lighter construction, which would allow of the mantel being easily removed for cleaning purposes. It is practically a three-leaved screen with a hinged top which locks it together. The rough iron frame is plain and light, and is filled with panels of pierced brass and a center panel of repousse work. The framework could be left a dull gray finish, with the brass work lacquered to a soft satin surface. The center panel offers a good opportunity to illustrate some symbol of heat, and in the example given the great heat giving sun with flame rays is used. Equally effective would be a conventional design of flames and smoke, or even a campfire scene. Combinations of various metals, with surfaces finished in different fashions, will produce beautiful color effects, and this center panel would be very successful if made of polished copper, and then heated until it takes on those beautiful shades of purple, red, and orange peculiar to that metal.

In this last example of a mantel, a suggestion is offered for wall treatment by which the position of the radiator is emphasized. Supposing the room to be panelled, an interesting center could be made by filling the panel behind the radiator with a warm-toned decorative picture, and on either side of it arranging electric light. Such a combination of heat and light, together with the artistic effect which could be got with the mantel and decorative panel, would transform that part of the room where the ugly radiator usually stands into a place of beauty.



RADIATOR MANTEL IN THE FORM OF A LIGHT WROUGHT IRON SCREEN WITH PANELS OF PIERCED BRASS AND REPOUSSE WORK

Modern Conveniences at "101 Ranch"

Home of Miller Brothers, of Wild West Show Fame,
at Bliss, Oklahoma



ALL MODERN RESIDENCE AT "101 RANCH"

THE owners of 101 Ranch are soon to have a house-warming in what probably is the most admirable country residence, not only in Oklahoma, but in the Southwest. The new residence will be occupied in a few days, and was built to replace a frame structure destroyed by fire last winter. The sum of \$25,000 has been expended in the bare building, to which will be added \$10,000 in fixtures and furnishings.

When the owners of 101 Ranch consulted an architect they gave orders for a building so absolutely fireproof that if necessary a bonfire could be set in any room without danger to the building.

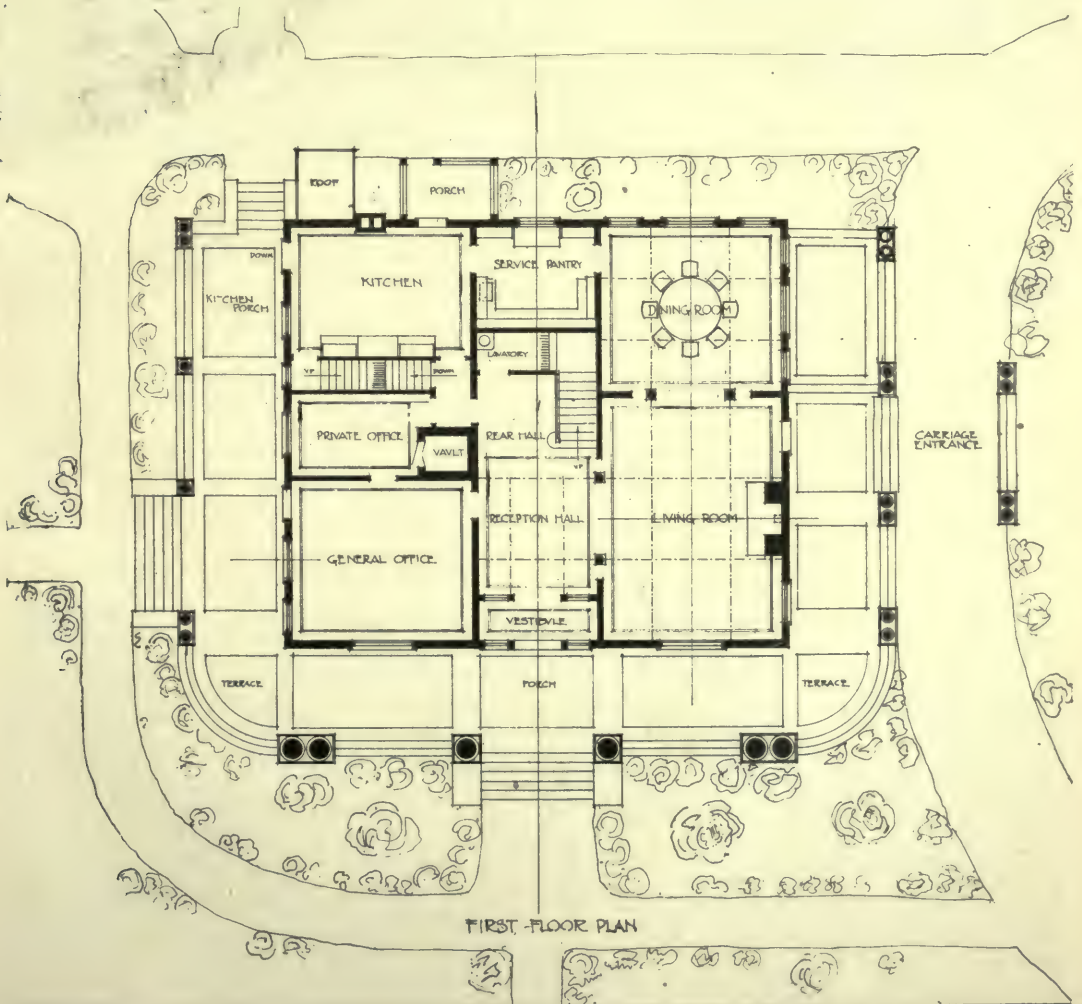
Steel and concrete were used, and it is believed that the only portion that could be burned are the hardwood floors, the doors and the ornamental woodwork; otherwise the entire building, from cellar to garret would be intact, even the roof being of asbestos material.

The residence contains every modern convenience and comfort, private plants furnishing electric light, steam heat, hot and cold water and hot and cold ventilation. For weeks a driller from Pennsylvania has been boring for gas in the residence grounds, but without success. More than \$10,000 has been spent in going down about 2,600 feet, but drilling

will not be abandoned in the search for natural gas until the maximum limit of 3,000 feet has been reached.

This beautiful residence, with its massive porticos on two sides, and its porte cochere, resembles an old-fashioned Southern home. It commands a fine view of the beautiful Salt Fork Valley, and from the upper porticos this winding stream may be followed eastward to where it flows into the Arkansas River, among the blue hills of the Osage Coun-

try. Surrounding the residence are orchards, vineyards, vast fields of alfalfa, corn and wheat, and further away the thousands of acres of pasture lands, on which graze thousands of head of cattle and horses. Under the roof, above the halls, the reception rooms, living rooms and guest rooms, is the billiard parlor. Each room is finished in a different wood, and its walls and ceiling frescoed in individual tints and designs.



Cultivation of Spring Bulbs

By Althea Harwin



EXTENSIVE TULIP BEDDING

THERE is no time of year when floral beauty is more grateful to the eye than in the early days of spring, after the long months of wintry gray and gloom. And this patch of vivid color should not be for the florist's window alone. It belongs to the home, as indeed all flowers do. The jaded spirit turns with fond response to the rose bed that struggles into bloom in spite of midsummer's heat and dust; but the flowers of April are the ones really worth while. Their environment is the crisp green of young grass and foliage, the delicious pale blue of rain-washed sky. Their appeal is to the youthful heart, new-born with hope and full of appreciation for the glories of nature.

How unfortunate, then, that the early spring garden is made a feature of only the wealthiest homes! The reason for this fact is not far to seek. The flowers that "make" the spring garden, that sometimes even lift their brilliant blossoms through a thin blanket of belated

snow, are the tulip, the jonquil, the hyacinth and a few others of their immediate family, and they present one decided disadvantage to the amateur gardener. Their life is such a short one that one is almost tempted to say they do not pay for the space they occupy, when one considers that that space must either be replanted or remain bare the rest of the season.

This replanting is the bugbear that stands in the way of the spring bulb; but it is a mountain only to the gardener who has not attempted to transcend it. Indeed it is not a serious matter at all when it is carried on systematically and with intelligence. It involves changing the contents of the beds twice, and there are geraniums, salvia, lantana, pinks and a multitude of other plants that may be set out after the bulbs have done their work and have been put away for the summer. Many of these summer bloomers will be in prime condition for potting when the time comes to return the bulbs to their places in the beds, and the

window garden will profit quite as much as the spring garden, by the system.

The preparation of the beds is of vital importance, and luckily the soil that has been used for growing such plants as are likely to be chosen for the summer months will be about right for the bulbs that are to inhabit it over winter. After the plants have been taken up the beds should be thoroughly loosened up, and enriched with leaf mould or good loam. Under no circumstances should manure be mixed with the soil. When the bed is in readiness, the bulbs should be planted, from twelve to fifteen inches apart, and three inches deep. In the case of the Chinese lily the depth should be six inches. When the bed is smoothed over, give it a primary mulch of stable manure. This ought to be repeated just before actual winter sets in, as most of the first mulch has been carried down into the soil by the fall rains and the second coat is needed both for warmth and for spring fertilization.

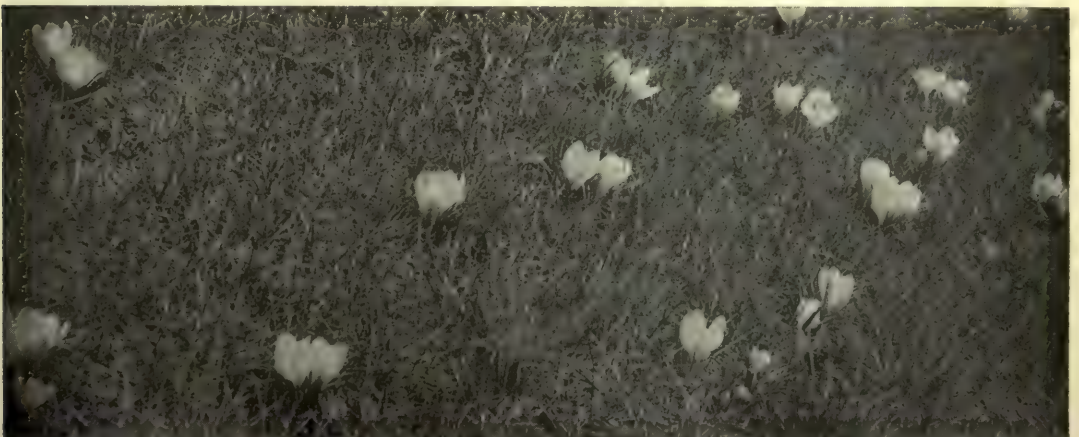
Many an amateur gardener has found the early bulbous plant a sore disappointment because he has waited until spring to set out his bulbs, or has assumed that the bulb that has produced bloom all winter in the window garden could go right on blooming when put out into the spring bed. The potted plant usu-



IRIS IN MASSED EFFECT

ally requires two years of repose in the garden soil to recuperate from the strain of winter forcing, and the fresh bulb that is planted in the spring has no time to prepare roots, and consequently it is without vitality. It exhausts its own small store of nourishment in producing a few sickly flowers, and when its puny effort is over there is nothing to dig up and put away for next year's garden.

The bulb that is properly planted in October will develop a thick clump of roots before the ground becomes sufficiently chilled to check all growth, an abundance of roots to supply all the moisture and nourishment the plant requires when the gorgeous blossoms are making their heaviest demands upon it. When the period of blooming is past there will still be sufficient vitality to



LAWN DOTTED WITH CROCUS

mature new bulbs, and these should not be dug up until the leaves have almost died down to the ground. This will be about the time the summer plants will demand the space, and the exchange can be made on the same day, early in May or early in June according to the locality. In case the bulbous plants do not die down with sufficient promptitude, they may be dug up with such earth as will cling to the roots and put away in the cellar until the earth is dry. It may then be shaken off, the bulbs carefully

fully, either with the watering pot or with the smallest stream that the garden hose will run, the water applied directly to the roots and the surrounding earth. It should be kept from the buds as far as possible. Some devotees of the spring bulb go so far as to have tarpaulin tents ready with which to shield their tulips and narcissus in case of heavy rain.

For those who do not relish the labor of changing the beds, and for those who have ample garden space, the bulbous plants that remain in the ground from



CALADIUMS BORDERING SHRUBBERY

picked out and put away in dry sand, in properly labeled boxes and in a place that is neither too hot nor too damp. That is about all there is to the growing of bulbous plants, except that while they are blooming they must be watered with intelligence—and practically nothing else! A heavy rain will sadly mar the blossoms, and the garden hose, in the hands of the enthusiastic novice, will ruin them utterly. In case of a very dry spring, the plants may be watered care-

year to year will be found more satisfactory. It is only necessary to arrange a suitable environment for them so that the bed will not look distressingly bare during the long months of summer. There are other bulbous plants, such as the hardy German iris, *Lilium lancifolium*, the old-fashioned tiger and day lilies and the hardy gladiolus, around and among which the hyacinths, narcissus, jonquils and tulips may be planted. At first there ought to be generous space in

the beds, since the clumps increase in size year by year. Montbretia, a most generous bloomer during the summer and an unusually handsome plant, is one that can be used to great advantage in such a bed.

Another satisfactory treatment is available, especially on a large lawn, and this can be adapted to the diminutive garden as well. It is the arrangement of spring bulbs as a border to large masses of shrubbery. Where space is at a premium, let the shrubs occupy the fence corners, the angle of the veranda or the long and narrow area between the fence and the walk. The advantage of using bulbs in conjunction with shrubbery is apparent. At the time of April blooming, there will be a suitable background of brown branches and swelling buds for the gaily dressed tulips and the dainty narcissus, and when the low-growing bulbous plants have finished their brief course of activity, the shrubs will have sent out verdant branches to conceal the bare beds from view.

Even in the rose beds and along the walks it is not necessary to dig up the bulbs. The spot where the tulip bulb lies buried may be marked by an inconspicuous stake, so that no harm shall come to the semi-dormant root when the growing plants are receiving necessary cultivation. The bulbs that remain in the ground from year to year require the annual mulch of stable manure, and aside from this they demand no attention whatever.

More charming even than the long beds of tulips and the round beds of hyacinth, in the early days of spring, is the lawn that is all dotted over with crocus, squills and snow drops. Almost in a night these modest blossoms open their blue and white petals, like thick-strewn stars in a green firmament, and when they pass away they leave the lawn as perfect as if they had not been there. And they will come and go thus silently



MASSED EFFECT OF HYACINTHS

and unostentatiously year after year if they have been properly planted in the first place. They should be set out after the sod is well established and free from weeds and, like the other hardy bulbs, they must be planted in the fall. The inexperienced gardener will use a sharpened stake with which to bore a hole in the close turf, the result of which is that the earth will be packed hard and discouragingly tough for the frail rootlets that must penetrate it. The better plan is to use an ordinary auger, such as carpenters employ in boring holes. Set it in the turf and give it two or three turns, loosening the earth at the same time that a sufficiently deep hole is made. Introduce the bulb and cover it over with the earth that has been removed. The first fall these lawn-planted bulbs should be mulched, but after that they may be trusted to take care of themselves.



A BORDER OF TULIPS

An Attractive Concrete House

By Charles Alma Byers

(Photographs by the Author)



EXTERIOR VIEW SHOWING GENERAL CHARACTER OF STYLE

THE accompanying photographs illustrate an attractive little concrete house built at a cost of \$4,200. It contains six rooms and bath, all on one floor, and a front porch, half pergolaed, and a rear pergola-courtyard. It is of simple, pleasing design, possessing plain cement walls and a flat shingled roof, the eaves of which have a universal projection of two feet eight inches. Its general appearance suggests a blending of the California bungalow and the mission style of architecture, with neither style strongly in evidence. It was designed by its owner, Franz A. Bischoff, an artist of Los Angeles, Cal., assisted by Architect Lester Moore of the same city.

The house has a frontage of forty-seven feet and a depth of fifty-four feet. It contains a living room sixteen by twenty-eight feet, a dining room fourteen by

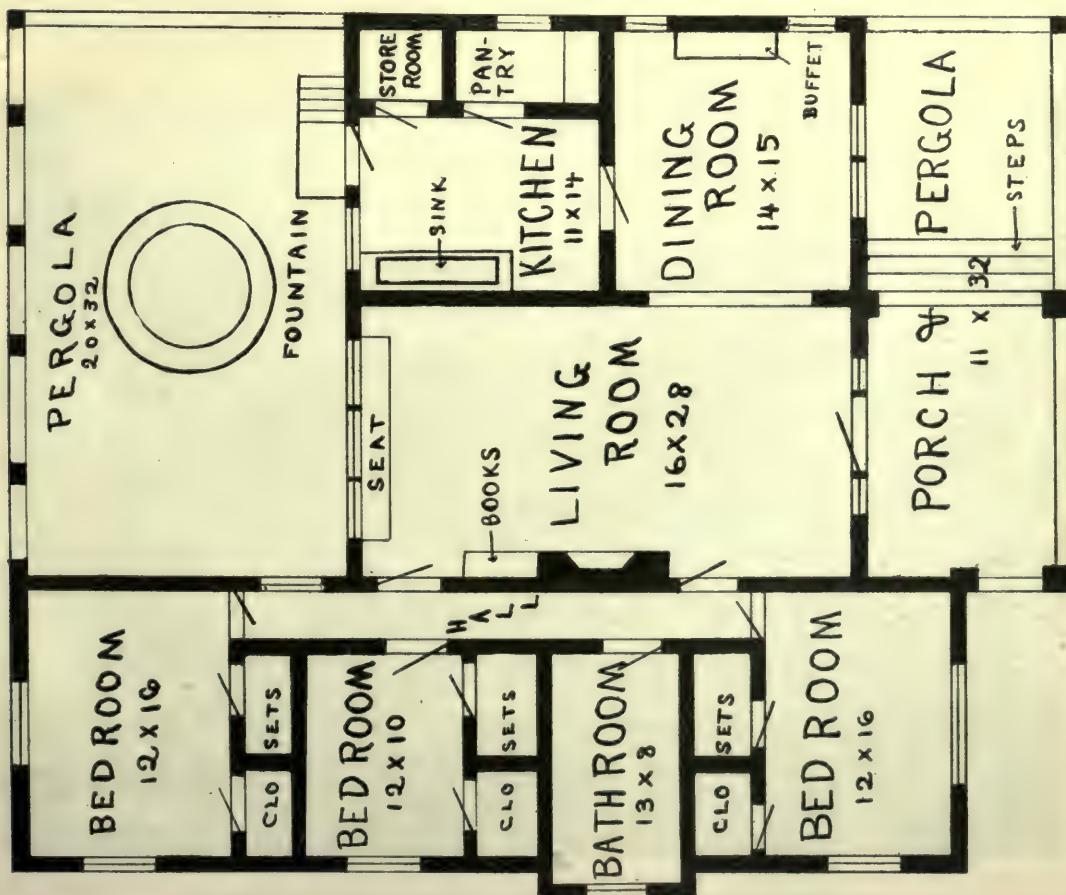
fifteen feet, a kitchen eleven by fourteen feet, a bath room eight by thirteen feet, and three bed rooms, one twelve by ten feet and two twelve by sixteen feet. The front porch, including the pergola, is eleven by thirty-two feet, while the pergola-courtyard in the rear is twenty by thirty-two feet.

The front door opens from the front porch directly into the large living room. To the left, running parallel with the room's greater dimension, are located the three bed rooms and the bath room, and to the right are the dining room and kitchen. In the farther end are three large windows which give an excellent view of the court, and before which is placed a built-in window seat. The room contains an immense brick fireplace, shown in one of the accompanying photographs, and also built-in bookcases.

The dining room is separated from the



PERGOLA, COURT AND FLOWERS, IN THE REAR



living room only by portieres. This room possesses a double window, from which a view is had into the front pergola, and two windows on the north. An excellent built-in buffet is located between the latter two.

On the inside the house is finished throughout, with the exception of the floors, of California red wood, and in these two rooms it is left its natural color, by being simply waxed. In the kitchen, the bath room and the bed rooms the woodwork is enameled white. The floors are of birch, polished and waxed. The gas and electric fixtures are brass, of special massive design, harmonizing well with the general interior effect.

The pergola-court, in the rear, is one of the house's most admirable features. It is provided with hammocks and com-

fortable seats, and is an excellent outdoor lounging place. It contains a fountain, surrounded by ferns and flowers, and from it leads a graveled and flower-bordered walk to the artist's studio, which stands on the rim of the picturesque Arroyo Seco.

The walls of the house average eighteen inches in thickness, giving an appearance of massiveness. They are constructed of cement, of excellent quality, over metal lath—a wall that should prove satisfactory in almost any locality.

Although simple in general design, the house presents an attractive and pleasing appearance from every point of view. It has excellent structural lines, and is compact and durably built. It should be duplicated anywhere at from \$4,000 to \$4,500.



THE DINING ROOM, SHOWING BUFFET AND GENERAL ARRANGEMENT

Odd Features of California Architecture

By Edith Everett

THESE five photographs, picked at random, from the many designs shown by Miss Julia Morgan, and Ira Wilson Hoover—successful San Francisco architects—show certain characteristics of California architecture, which are particularly western, and especially interesting.

The first picture shows the fence and gateway of a beautiful concrete house in Oakland, California. The concrete wall matches the house, while the tile top to the gateway corresponds to the red roof of the residence. The low, light colored wall sets off to good advantage the green luxuriance of the well kept lawn, and the red tiled gateway on its concrete pillars is a delightful finish to a perfect picture. From the view given, one gets but a glimpse of the large trees and the picturesque beauty of one of Oakland's finest homes.

The next picture shows just the entrance to the Mills College Library—a building of which Mills College's friends are justly proud. It is a plaster structure, with red tile roof. But the doorway with its flower-filled balcony above—its palms on either side—is the feature which is distinctly Californian, and to which the picture calls attention. The large arched windows of the second story tell of the Westerner's love of air and light, and are one of the many attractive features of this California library.

A doorway of markedly different style is shown in the third picture. It is the

entrance to a very artistic shingle house. The small brick porch is partly shaded by the circular covered top to the doorway. It can hardly be called a porch and yet it gives some shelter. But the large projecting window above, the broad covered doorway, and the brick wall with its stone steps on either side—make what may be called a perfect whole—artistically. For those who do not desire large verandas—and many Californians do not—this little portico is an idea that attracts. The effect is much enhanced, however, by the projecting window above. Among the many shingle houses of Berkeley—the shingle structure is



A CONCRETE GATEWAY WITH RED TILE ROOF



ENTRANCE TO WELLS COLLEGE LIBRARY

Berkeley's most popular house—none surpasses this one in fitness and comfort.

The gateway and two entrances were chosen to show little features, which help to make up the uniqueness of California architecture. That it is the most original architecture of the United States, needs no proof. To every traveler it is a self-evident fact.

The fourth picture was chosen as an illustration of a style peculiarly suited to the soft climate of the Golden State. Perhaps it could scarcely be copied in a cheaper dwelling house and maybe it would seem out of place in our bleaker northern climate.

This is the courtyard of a thirty-five thousand dollar concrete house of Berkeley. It has the air of the Spanish house after which Californians delight to mod-

el. The visitor, who stands by the fountain, within this charming court, can imagine himself transported to the Old World, and half expects fair Senoritas to appear at the old-fashioned windows above. Fairest flowers bloom, the fountain plays, and the long corridors resound with merry laughter. It is particularly the flowers, the corridors, the latticed windows which convey the spell of a foreign land.

The courtyard idea is old, to be sure, yet there has never been anything found more beautiful. One can gather from this view just how enchanting the house is. Even then the reality is beyond anything a picture can show.

The last photograph is of the Retiring



A GENEROUS DOORWAY IN SHINGLE SETTING

Pavilion at Mountain View Cemetery, Oakland. This little rustic pavilion is all in keeping with the locality. The brown hills back of it, the two towering eucalyptus trees in front of it, the well kept walks, the fountains and flowers set off this odd little structure. It is almost all veranda, as can be told from the photograph. The flowering plants—being about the porch—the cool shade, the playing water, the luxuriant foliage, the open room, invite the weary to rest.

Different as these pictures are, they illustrate my point, that there are many unique features in the architecture of the Far West. As the traveler proceeds from the East towards the West he notes the change in buildings, and when finally California is reached, he feels the originality, the daring of the western architects, who build as they feel, for a people who love comfort, as well as adornment, and who are tied by no traditions—a people who live in a land of sunshine and flowers, and gather from Nature's beauties a certain ability to rear dwellings that fit the scene.



THE COURTYARD ENTRANCE OF A CON-
CRETE HOUSE



RETIRING PAVILION, MOUNT VIEW CEMETARY

Notes on Gardening



A VASE OF COSMOS

A Guide for Planting to Get the Best Color Effects in the Flower Beds.

THE gardener should always keep in mind the date at which different flowers bloom and arrange his planting accordingly. Each month new flowers should be coming to perfection to take the place of those that have stopped blooming.

The following are the colors of the more common flowers blooming in June and July. Speaking generally, the most pleasant color schemes are those in which strongly contrasting tints are separated by whites or pale yellows. Blues and reds never lose by being bordered or set off against white. Lilacs and purples often gain immeasurably by having yellow flowers lead up to them.

The blue flowers are: Forget-me-nots, penstemon, Stokes' Aster, love-in a-mist, lobelia, ageratum.

Blue and white are: Campanula, delphinium, penstemon, digitalis, Jacob's ladder, platycodon and lobelia.

Red and yellow are: Canna, annual gaillardia, calliopsis (red and brown).

White are: Poppies, valerian, lilum candidum, Shasta daisy, yucca, phlox, Jacob's ladder, cosmos, lobelia, nicotiana and sweet alyssum.

Strong yellows are: Canna, marigold, calliopsis, poppy, coreopsis and anthemis.

Pink are: Poppies, valerian, campanula, lychnis, geraniums, cosmos and lavender.

For strong scarlets, select salvia and geranium.

For rich red effects, use zinnia, canna, cosmos, cardinal flower, nicotiana, monarda, poppies and lychnis viscaria.

It will be noted that many of the flowers in this table appear under several tints. When selecting such plants, be sure to order seeds of the color-variety you desire.

For multicolored beds, the following flowers come in a large variety of colors and can be planted so as to give a great mixture of tints—a very desirable result sometimes when there is a dull spot in the corner that needs gay colors. For this purpose plant the mixed varieties of fox-glove, Sweet William, corn flowers, poppies, sweet peas, petunias, snap-dragon, dahlia, stock, zinnia, nasturtium, phlox, candy tuft and portulacca.

Of course this list is offered not as being comprehensive, but as being a well selected one, suggesting the flowers that are easiest for amateurs to raise and that will give the most satisfaction to the average gardener.

FLOWERS FOR NEXT SUMMER.

To get the best results and avoid bare spots in the garden it is well to use judgment in planting the seeds. The germ life of most flower seed is lightly protected and should not be planted too early. Nothing is gained by too much haste, as the cold retards germination and weakens the plant.

Seeds are often planted too deep, preventing the light seed from reaching the surface with its shoots before it is stifled.

Sweet peas are an exception in planting and may be placed very early; some hardy varieties can be in before the frost is all out, without damage.

A pleasing variety of sweet peas is called the Orchid, it having much the appearance of that flower. It is longer than the ordinary pea blossom and of a rose pink color.

The aster is a beautiful and satisfactory flower for the garden and may be had in numerous colors and kinds. The "Beulah" is an aster of the giant comet class, some specimens measuring nearly six inches in diameter.

The "Cynthia" aster is very handsome, with its large showy blossoms of rich purplish blue.

One of the most beautiful is the "Mary," snowy white, very large and delicately petaled.

Practically all the annual plants flourish in the northern states and a great many of the perennials also. The perennials increase their growth and hardiness year by year as they become adapted to the soil and climate. Of these the peony is one of the most popular and will thrive in almost any garden soil and is perfectly hardy. Phlox is a perennial possessing advantages even over the showy peony because of its longer blooming period and the greater variety of its coloring. It is well adapted to the climate of the colder portions of the United States and southern Canada and one is well rewarded for the time spent in its cultivation.

THE VEGETABLE GARDEN

Quantity of Seeds Required.

THE amateur is always in doubt as to how much seed of a given kind to plant in a given space.

Just how many plants will come up is something of a problem and one which can only be answered approximately. Seedsmen arrive at a very good

estimate, but some latitude must be allowed for the many things that tend to influence the calculations adversely. The following list will give what is a fair average for fresh seed: A pint of dwarf or bush beans will plant 100 feet. An ounce of beet seed will sow sixty feet. One ounce of Brussels sprouts is enough to

plant a bed six feet by six feet, which space should produce about 2,000 plants. An ounce of carrot will sow at least fifteen rows of ten feet each. A pint of corn will plant seventy-five hills. One ounce of lettuce will plant 125 feet and produce at least 1,000 plants, and three times that many if they are close headed. An ounce of parsley will sow 150 feet. One ounce of parsnip will sow between 200 and 300 feet. A quart of peas will sow 100 feet. An ounce of radish will sow 100 feet. Spinach and turnip will give 150 feet to the ounce.

It will be plain that for most vegetables you need not buy anywhere near an ounce. The seedsmen put up packets that contain from one-fourth to one-third and one-half an ounce, which are ample.

Before seeding down the vegetable garden, the earth should be made fine and thoroughly raked. A new tool, used for another purpose, suggests itself as a means of removing gravel and other undesirable material from the soil. This is what is known as the shovel ash sifter. It is an implement not unlike one-half of the old-fashioned boat called a scow, with a long wooden handle. The bottom is full of round holes about $\frac{1}{4}$ inch in diameter. In soft earth it could be used as a shovel, throwing the larger material aside after shaking the smaller through. The next thing is to level off the bed, or if the ground is wet it should have a little dip in the direction of the rows. This may be accomplished by tying a rope to each end of a plank and dragging it over the soft ground. This not only levels off the space but makes the ground firm for seeding.

For rows that are to be two feet apart provide a stick of that length as a measure.

Drive little stakes just the length of this stick apart along each side of the patch all the way down, to serve as a guide.

Get a light board as near the length of the rows as possible and lay it on the patch so that one edge will lie along what is to be a row, as indicated by the little stakes. With a sharp stick draw your furrow for the seeds, using the edge of the board as a ruler. Of course these furrows must be of different depths, according to the kind of seed that goes into them.

If your soil is not good, it will pay to make the furrow (or drill, as gardeners call it) deeper than is needed for the seed and scatter in a little chemical fertilizer or bone meal. Cover this with earth so that it won't touch the seed, and then sow.

After the seeds are in, rake the earth very lightly back on them, taking care not to disturb them. Then walk along the row, treading on it with all your weight to press the earth all around the seeds and give them a thoroughly firm bed.

You can't pack the earth around those babies too tightly. After they have been packed, rake loose earth lightly over the furrow, to cover it and prevent the soil around the seeds from drying out and baking. Don't rake much on.

Having finished the row, label one of the stakes by wiring a bit of wood on it. Don't trust to a paper label. The first rain will ruin it. Don't trust to memory about your rows, either. If you don't mark them as you go along you will be sorry when the weeds begin to come, which they often do before the vegetables peep out.

If you can't get a board to serve the purpose, get a long stick. It will do as well except that you can't use it to kneel on, which is a decided convenience. If you can't even get a stick, stretch twine between the stakes to serve as a guide for the rows.

Don't try to seed down the patch without such a guide. It will be not only ex-

tremely troublesome, but it will be impossible to get the rows straight.

Prepare your board, stakes, wooden labels, etc., now, and you will be able to plant a thirty-foot patch in a few hours, whereas without preparation it may take a day or more and then be a poor job.

How to Set Out Growing Plants.

To set out ordinary shrubs successfully requires only a little common sense mixed with the necessary manual labor. A responsible dealer will deliver the plants with the roots carefully protected. If you cannot give them immediate attention put them all into a hastily dug trench, just as they come from the nurseryman. Put the root portions into the trench, cover carefully with earth and press the earth down with the feet. With a liberal supply of water the plants may be left for days before final planting. This process is called "heeling in" and is a wise thing to do even when the plants are to be set out at once, if there are many of them. Sun or wind are very injurious to exposed roots and should be kept from them.

Make the hole for planting bigger and deeper than the plant would seem to require. Throw aside the inferior lower soil and fill in with fine top soil and some manure set deep enough to keep it from the roots when the plant is set in the hole. Make this bottom filling firm, by trampling upon it till a firm foundation is obtained. The plant is held upright in the hole in the position it is to occupy when planted. If the longest roots reach the bottom without cramping the depth is properly determined and the plant may be allowed to rest till a portion of the earth is replaced.

Throw finely pulverized dirt in till the roots are all covered. Pack them down as hard as possible. The roots are compressed and twisted now and the plant will be much deeper in the pit than it should be, but you will achieve the necessary result of packing the roots thoroughly with soil.

Now pull the plant up gently, so that it stands perfectly perpendicular and as high as it should be. You can tell this by the appearance of the main stem, which will show the earth line.

Hold it with one hand and with the other pack earth down between the roots. No matter how tightly it seems to have been packed before, you will find that you can poke your finger into innumerable cavities. All these must be filled up tightly.

When you cannot possibly force another bit of earth between or under the roots, fill in the hole. Every shovelful must be trampled down. When you have filled to within an inch of the top, throw in manure or other fertilizer, but don't let it touch the stem.

Then turn the water on. Don't stop till the ground is so well soaked that the water remains standing on top. When it has finally drained away, cover with leaves or grass or other vegetable litter for a mulch, or toss finely raked earth over it.

Soak freely for some days after planting. Don't sprinkle, but pour it in from hose or bucket. Remember, however, that though the plant needs lots of water after it is in, you must not plant it in wet ground. The soil must be dry while you plant.

Much care should be taken in purchasing plants. Try to find out as much about the man who sells you the stock as possible and the firm he represents. If he only fills the order on his own account from other dealers it may be very difficult to get plants replaced, for those that die or are not satisfactory. Go to headquarters if possible. It is more satisfactory usually. There are, however, perfectly reliable men who have furnished their customers with well selected stock year after year and may be relied upon. The wise purchaser will inquire into these matters before placing his order.

Problems in Concrete

By H. Edward Walker

(Continued from the March Number)



A WALL SURFACE IN ROUGH CONCRETE

ARTICLE XVI.

Concrete Surfaces.

THE surface treatment of concrete is one of the most important considerations in connection with its employment as a structural material. No matter what qualities of stability, constructive advantages in erection, etc., a material may possess, if it cannot be finished in an attractive manner its field is limited. Early experiences with concrete revealed its weakness in this respect. Readily adaptable to any form or almost any condition requiring strength, its appearance left much to be desired. So much so in fact that the designer, the only person who could really make it an artistic success, refused to have anything to do with it as an exposed material.

The cement block, as it was originally

presented, was impossible, but has now been made acceptable to all but the severest critics. Block surfaces are either modeled in the machine or tool dressed after the concrete has hardened. The color is added to the aggregate or is produced by the color of the aggregate in its natural state. Tones from white to dark grey may be influenced by the color of the cement itself.

In considering concrete surfaces, however, it is the extended surface rather than the unit or individual block, that comes within the scope of this article.

Surfaces are of three kinds, those which are produced upon a mass concrete as originally poured into the forms, by removing a portion of it, those applied to the surface of the forms just before pouring and those that are plastered upon the surface, commonly called stucco. The method of either surfacing is subject to

variation, not only in the making but in the finished product.

Considering the monolithic surface produced in situ first, it will be seen that the face of the wall after the forms are removed is most uninteresting, reproducing as it does all the imperfections of the forms. The surface may be fairly smooth but in places the aggregate shows and there are variations in color. A film of mortar is formed against the mould and may or may not scale off when the form is removed.

Many designers claim that the proper treatment of this surface, that of exposing the aggregate, is the honest and logical expression of concrete as an artistic building material and that methods which stick something on, covering up the rough wall, are a sham and the wrong principle of design.

This would seem to be rather an extreme view without some modification or explanation. It is certainly true that concrete should stand upon its own merits and not derive its popularity from its ability to imitate something else. For this reason any attempt to imitate a unit construction upon the surface of a monolithic construction is false and contrary to an independent principle of design. But the treatment of large surfaces with a coating of aggregates of pleasing dimensions and color evenly applied, preserves the idea of a monolithic construction and as such is no more open to criticism than the method employed which removes a portion of the constructed wall to expose the larger materials.

THE SCRUBBING METHOD.

This latter method is carried out in this manner:

The forms are removed in twenty-four hours after placing the concrete and it is then scrubbed with a scrubbing brush, or a wire brush if the concrete is too hard. A hose is used to spray the surface, washing away all the surface mortar, leaving the larger pieces of aggregate exposed.

If good results are to be obtained preparation should be made at the time the concrete is mixed, the cement should be of a shade to harmonize or emphasize the aggregates and they in turn should be of a size and color to produce the effect desired.

Different surfaces and textures may be obtained by using aggregate of graded sizes and mixing in a certain proportion of pebbles, marble screenings, broken brick, or burnt clay, giving color and brightness to an otherwise dead expanse of wall.

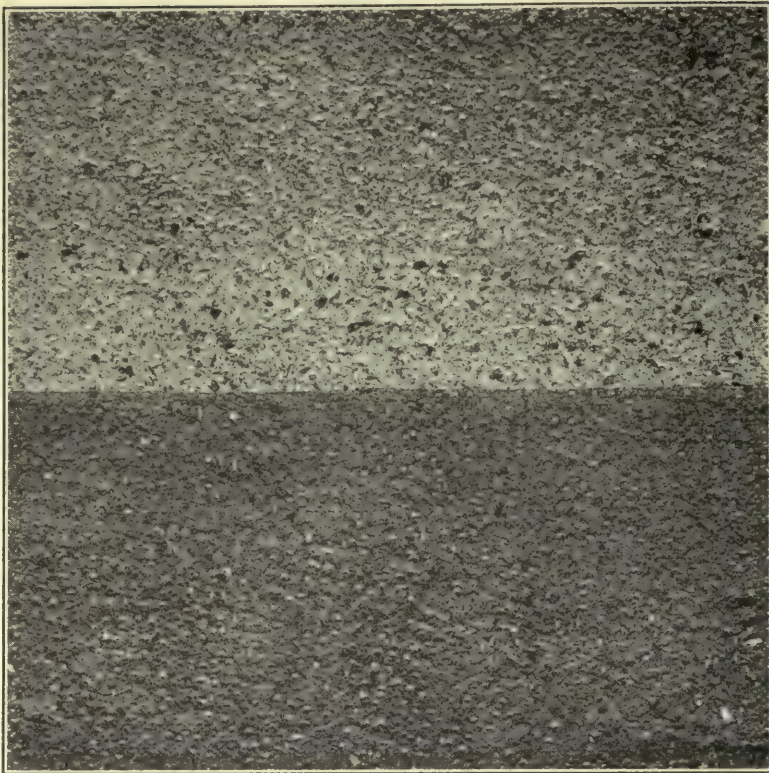
A very successful example, actually constructed, is described by Albert Moyer, C. E., as composed of one part Portland cement, three parts limestone and white marble screenings about the size of sand, five parts $\frac{3}{4}$ -inch trap rock and one part of 1-inch white marble chips.

The walls are placed in courses and may be handled in such a manner that coarse or fine material will find its way to the exposed surface. A spade may be pushed down next to the form and the fresh concrete crowded back, allowing the finer particles to find their way to the surface as it is removed. On the other hand tamping in the center of the wall will force the larger particles to the wall surfaces, to be exposed when treated with the brush. If the walls are stained from surplus water of the courses, at the time of placing, the stain may be removed by washing with commercial muriatic acid four to six parts of water. This also removes cement stain from the stone and brightens up the whole external surface.

There is one serious objection to the wall surface finished by scrubbing and that is the fact that the forms must be removed before the concrete is thoroughly hardened. Walls that have been allowed to properly set may be treated with muriatic acid as above stated, producing much the same result, but should be thoroughly washed to remove all traces of the acid.

THE CLAY TREATMENT.

A pebble dash effect may be artificially produced by what is known as the clay treatment. The forms may be erected in the usual manner, to a height of 3 feet or less as desired. The inside of the form that is to be the exposed surface when finally completed, is next plastered with wet clay. Colored pebbles from $\frac{3}{4}$ inch to those that would be retained on a $\frac{1}{4}$ -inch screen are then pressed by hand into the wet clay, which will sustain them in the vertical position. As soon as this is completed the concrete is poured and stands the usual length of time before



CONTRASTING SHADES BY USING DIFFERENT COLORED AGGREGATES.
SURFACE PRODUCED BY BUSH-HAMMERING

the forms are removed. After the concrete has thoroughly set, wash the clay from the wall with a hose and scrub lightly with a brush. Certain elements in the clay will enter into chemical combination with the cement, producing pleasing color effects with the contrasting pebbles. Great care must be taken to properly arrange the pebbles that no joint will be visible between one batch and its neighbor. In many instances the lower pebbles appear in a straight horizontal line, clearly showing the different levels of the concrete pouring. It would seem that this might be overcome by preparing the inner surface of the form with clay and pebbles as described above, and then pouring until the concrete came to the center of the topmost plank, leaving the upper half to be filled when the next section of form was erected. This would allow the pebbles to assume that irregular position which is so desirable in the finished surface, giving no suggestion of its layer cake method of construction.

THE TOOLED METHOD.

A pointed or toothed tool may be used upon the surface of the wall. The mortar which has flushed to the surface is cut away, together with particles of the mortar between the aggregates. The dead grey color of the flat cement wall is broken up and light and shadow is emphasized by this roughing process. The different colors of the stones contained in gravel add much to the appearance of a wall so treated, but the dressing must be carefully done to produce the most pleasing results.

This method is said to be objectionable because it destroys the surface mortar, which is the most waterproof part of the concrete. A wall so treated will absorb more moisture after dressing than before, if there is any tendency to porosity. A properly proportioned and well-handled concrete is very dense and waterproof, reducing the likelihood of absorption to the minimum. When the concrete is two or three weeks old the picking may be done, 40 to 50 feet of surface with a hand

tool and 50 to 60 feet with a pneumatic tool, being an average day's work.

BUSH-HAMMERING.

Hand hammering and the pneumatic hammer are used to prepare concrete wall surfaces. The longer the time that is allowed to elapse, from three weeks up to three months after placing the concrete before bush hammering, the more artistic will be the result, due to the crystallization of the cement.

The cement becomes as hard as the stone forming the aggregate after a lapse of three months and the stone broken by the hammer give life to the surface. After this time bush hammering becomes very difficult and hand hammering nearly impossible. Hammers as heavy as nine pounds and light as three have been employed to advantage, the tendency being in favor of the light hammer and few points. A popular hammer is one of three pounds with four points, pyramidal in shape and two-thirds of an inch apart. Of the nine-pound hammers one is used with thirty-two and twenty-five points on the ends and one with twenty-five and sixteen points. Three cents per square foot is an average cost for this work exclusive of the cost of scaffolding.

Compressed air is used for bush hammering on large structures where it is readily available, with good results.

THE SAND BLAST.

Sand blast finish is also produced by compressed air, sand being impinged against the surface of the wall, cutting away the outer material, after the manner of the scrubbing method and is a very economical treatment for large surfaces.

The surfaces described have each a beauty of its own depending not wholly upon the care in the execution of the work upon the exterior. Either of these methods might result in failure or be indifferently good if the underlying aggregates to be exposed are not of the proper kind and quality. At the expense of repetition it is urged upon the constructor to use special care in introducing materials, calculated to produce the best results and to see that they are properly incorporated with the mass, that they may be evenly distributed through the concrete. A little ingenuity will produce thoroughly artistic and novel results.

As an example, a belt course of red granite chips might be introduced into the form to make a pleasing contrast in outline and color with lighter colored aggregates of the wall proper. Mechanical difficulties, tending to produce inartistic results, by lack of unity in the surface texture, etc., should be studied and overcome by the practical, resourceful mind.

(To be continued.)



SURFACE PRODUCED BY PEBBLES SET IN CLAY AGAINST THE FORMS

Designs for the Home-Builder

WITH a view of making the design section especially helpful at a time when building operations are reaching a very active period, the number of designs have been largely increased. Many of the designs are artistic and have been selected with the idea of showing what is being done by up-to-date designers. The talent as exemplified by the illustrations is of a high order and the section is correspondingly improved by the presence of these designs.

The popular house is not always the most artistic, but if the home builder will be guided by a capable designer in the production of his plans, keeping his hand gently but firmly upon the purse strings, the result should be a house that he is proud to own and of which the neighborhood is proud.

Some people hesitate to go contrary to what is commonly constructed in their vicinity thinking that such a house can be more readily disposed of if necessary. This is true only in a very ordinary neighborhood where even a good house would not sell readily. The following will show that there is a demand for houses built on lines radically different from the conventional. A lady who had traveled much and had artistic ideas built an English cottage in the half-timber style upon a high priced lot in a very good location. It was well planned and had style just as a well-tailored garment has it, in every line, in every detail.

She bought shrubbery, erected flower boxes and kept them full of beautiful flowers, making the place the talk of a very large city. Many people would have thought, at the beginning, that the designer was exorbitant in his charges but how insignificant they seemed compared

with the price she eventually sold it for, because of his artistic taste and her own good judgment in presenting the finished product.

Design "B 131"

Materials.—All foundations, walls, piers and footings to grade lines, and all exterior walls above the grade lines to the roof lines, and interior bearing partition walls, to be made of plain concrete. The facing of all exterior walls, to be of finer mixture of concrete, using screened crushed stone not exceeding $\frac{1}{2}$ " in diameter, torpedo sand and cement, making an apparently rough uniform surface.

The basement walls to be 12" thick, exterior walls two stories in height, first story to be 10", second story 8". All interior bearing partition walls and one-story exterior walls to be 8". Other interior partitions to be built of 3" concrete blocks.

All exterior walls to have furring strip and metal lath for plaster inside. All interior walls and ceilings to be plastered over the concrete surface. All floors to be of reinforced concrete. The living room to have reinforced concrete beams. All exterior porch columns, outside steps, etc., to be of plain concrete. The brackets under the front entrance porch, the pergola beams and rafter parts, to be cast in moulds. The stairways to be of reinforced concrete. Chimneys to be built of concrete blocks.

The porch floor to be laid in a soft red cement tile, 12" x 12", with $\frac{1}{2}$ " black cement joints. The hearths of the fireplaces to be of colored cement tiles. The basement floor to be 4" concrete flooring. Top floors in kitchen, pantries and rear entry to be cement finish. All other floors to be oak.

Cottage Designs for the Home-Builder—Continued

The roof construction to be structural steel covered with shingle tile.

Interior finish of hall, living room and dining room to be in hardwoods. Woodwork in all bedrooms to be white wood for enamel and paint finish. Woodwork in kitchen, pantries, etc., to be white wood for paint. Woodwork of servant's hall and servant's quarters to be yellow pine for stain.

All plumbing to be first-class, using enameled iron fixtures. Laundry in basement.

Building to be heated by hot water.

The designer estimates the cost at \$8,000.

Design "B 132"

The cement exterior is very popular and in this instance a house suggesting English architectural detail is shown in which the color scheme is quite a departure. Half-timbering is usually stained a brown or bottle green but in this case it is pure white forming a very good contrast with the grey cement. The living room is very long and appears narrow on the drawing but actually this is not apparent because of the triple, recessed window at the side which adds to its width. At the end is a brick fireplace with bookcases on either side.

The dining room contains a built-in sideboard and connects with the hall by a wide opening. The kitchen contains built-in cupboards, a sink, gas stove, etc., and the refrigerator is located in the entry under the stair landing.

There are four chambers on the second floor with ample closet space, a bathroom and a bedding balcony.

The attic is large and well lighted and contains two bedrooms. In the basement is a hot water plant, a laundry and vegetable cellar. The first story is finished in oak, with oak floor and is 9 feet in height. The second story is finished in pine enameled, with birch floors and is 8 feet 6

inches high. The basement is 7 feet 6 inches high. The house is 29 feet 6 inches wide and 28 feet 6 inches deep and cost approximately \$4,500, including plumbing, heating, art glass, etc.

Design "B 133"

This charming little home is designed in the English style, of brick below with stucco above and a moderate amount of half-timbering in the gables. All its details are carefully studied and give it an air of refinement. The hooded entrance porch is a feature of the style, a family porch being provided where there is more privacy. Note the flower boxes and planting of shrubbery obliterating the harsh line usually apparent at the base of a house. The hall, living room and dining room are combined in a large open effect by the use of wide columned openings. The ceiling beams of these rooms are solid and are not a sham, being the actual support of the second floor. The space between them is paneled in wood. There is a spacious kitchen, a den and enclosed porch.

On the second floor are three chambers, a bathroom and a sleeping porch. The attic is of good size. The first story is finished in oak with oak floors. The second story is finished in white enamel with oak floors. The basement is 7 feet 6 inches in height, the first story 9 feet and the second story 8 feet 6 inches. There is a hot water plant, laundry and storage room.

The architect states that the complete cost of the house was \$7,000.

Design "B 134"

This house has caused quite a little comment of a favorable nature owing to its simplicity of design and the nature of the materials. It is built with hollow concrete walls except the porch, which is of monolithic construction. The wide arches and simple coping of the porch

Cottage Designs for the Home-Builder—Continued

add much to the appearance of the house. The exterior is of rough cast cement of a yellowish clay color. The cornice has a projection of four feet and with the green Spanish tile of the roof carries out the mission idea of design. On the first floor are hall, living room with fireplace, a dining room and kitchen, finished in red oak. On the second floor are three good chambers, a dressing room and a bathroom finished in hard pine with beech floors.

The house is 26 feet wide and 30 feet deep with walls 10 inches thick. The cost of the house was remarkably cheap, being as stated by the owner only \$3,400 with furnace heat, plumbing and all fixtures in place complete.

Design "B 135"

The simple treatment given in this cottage home is the making of it. The large porch columns which support the second story give a solid and substantial appearance.

Particularly attractive is the little hall with its seat and half screened staircase. The little bay in the dining room has a shelf for flowers and the windows are of leaded glass.

There is a full basement with a hot air heating plant provided; also a laundry.

The finish of the main rooms of first story is in white oak with hardwood floors throughout, also in the second story hall and bath. Balance in pine.

Cost, \$2,380. Width, 24 ft.; depth, 32 ft.; height of basement, 7 ft.; first story, 9 ft. 5 in.; second story, 8 ft. 7 in.

Design "B 136"

This house is of frame with rough cast cement as an exterior covering. Its lines are very pleasing although simplicity is the key-note.

The front porch is of good size and is screened in. There is a central hall with openings to a large living room containing a fireplace and to a dining room with built-in sideboard. The kitchen is nicely arranged and has a few steps up opening on to main stair, to second floor. The entry contains the ice box and stairs to basement. The main room of the first floor are finished in plain red oak with

oak floors. The kitchen is pine to paint with a pine floor.

On the second floor are three pleasant chambers, a bathroom and a bedding balcony. The finish is pine to paint with birch floors.

The house is 28 feet by 22 feet exclusive of porch and the basement is 7 feet 6 inches high, the first story 9 feet and the second story 8 feet 6 inches. It is warmed by a hot water plant and the architects state the cost to have been \$4,200.

Design "B 137"

This novel bungalow type of duplex was designed to give the occupants of one apartment the care of both. To this end but one kitchen is provided from which both dining rooms can be served. This arrangement makes one party carefree as to meals and housework and proves a paying investment for the other. The kitchen as shown is quite large and if absolutely separate apartments are desired, a partition can be built dividing it, that each may have half. By this arrangement each apartment would have a porch, living room, dining room, pantry, kitchen, three chambers and a bathroom. One living room contains a fireplace, bookshelves and a nook. There is a plentiful supply of closets. Externally the home is very attractive. The construction is frame, but would appear well if cemented over upon expanded metal lath. The windows are cut up in diamond lights and are for the most part casement hung. A simple but pleasing dormer on the roof adds to the available space on the second floor. The building is 52 ft. long and 42 ft. 6 in. wide. The first story is 9 ft. 4 in., the second from 5 ft. 6 in. to 8 ft. 3 in. high. The owner claims to have built it, using birch finish and floors, for \$4,480, without heat.

Design "B 138"

This interesting little cottage has a very home-like air with its extensive porch and low, sweeping roof. There is a full basement of quarried stone, the exposed portions above ground being of ashlar. The first story is built of white pressed brick. The first floor contains a

Cottage Designs for the Home-Builder—Continued

living room with a pretty inglenook about the fireplace, a dining room with china closet, pantry with refrigerator, cupboards, etc., and a well appointed kitchen with its own screened porch. There are two first floor bedrooms and a bathroom all upon a private hall.

The second floor contains three rather large bedrooms with extra large closets and a sewing room. There is a balcony for each of the front and side rooms. The interior woodwork is of birch in a dark stain. The floors are of hard pine. The plastered walls are tinted and the fireplace is in grey brick.

The house is 44 feet 6 inches by 34 feet, it is heated by a furnace and the basement contains laundry, cellar and store-room in addition to the furnace room with outside cellar entrance. The architect states that the complete cost was \$4,500.

Design "B 139"

A very generously proportioned bungalow with accommodations for two chambers on the second floor if desired. This bungalow is built on the style of the California homes and has a very large porch 10 ft. wide across a portion of the front and around on one side. Five rooms and a bath are secured on the ground floor. These rooms, as will be noted by the floor plan below, are of very good size, particularly the living room and front chamber.

A slight change is made in the house built, as shown by accompanying photograph, from the plan. This change occurs on one side where the wall is perfectly straight and the side entrance has been omitted.

Good generous grounds are required for the building of such a home as the house measures, including the porch, 47 ft. wide. The ceiling height is 10 ft. It is intended to have a basement under only a portion of the house, as it is designed more for summer use than for cold climates. With the use of soft wood finish throughout, yellow pine flooring, the estimated cost is \$2,590.

Design "B 140"

In the revival of the "Old Time Colonial" we find much in its quaint beauty to admire. The severe plainness is relieved by the refinement of detail and there is much in the early Colonial work

that is instructive and helpful to us in planning our modern homes. In those days simplicity and economy were more a necessity than at the present time, thus the regular rectangular outline of the house was seldom deviated from. The central hall, with the double parlors on one side, the dining room and kitchen on the opposite side constituted the plan of such a house.

In our illustration we have attempted to give a fair sample of this early Colonial work, with some modifications of the interior arrangement. The recessed entrance with its elliptic arched porch, its central door way with side lights and old fashioned knocker, from the central feature of the front facade which is 34 feet, the depth of the house being 26 feet standing with the broad side of the roof to the front and the wide central chimney at each end and finished in brick or cement on the outside of the house. The exterior is shingled with the long shaved shingles and the windows symmetrical in form enclosed with solid shutters as of old. At the left of the central hall is a large living room with open fireplace and a den or library at the rear, separated by columned arch. On the right is the dining room provided with a fireplace and a recessed sideboard, and opens through the pantry to the rear, connecting with the kitchen and the rear hallway.

On the second floor are three good chambers and a central dressing room, ample clothes closets and a large bathroom. The rear stairs are continued to the attic which space may be used for storage purposes. The estimated cost of this house including heating and plumbing is \$4,500.

Suggestions for painting are as follows: the shingles on the side to be stained a light brown, the roof a dark Sienna brown, all trimmings, casings, cornices, porch, etc., to be painted a light cream color. The interior woodwork to be finished in white and cream enamel paint and the floors throughout to be of hardwood stained to suit the taste.

Design "B 141"

This is a spacious house of brick construction, suitable for a suburban home, where large lots are available to afford a proper setting. The design is in a style

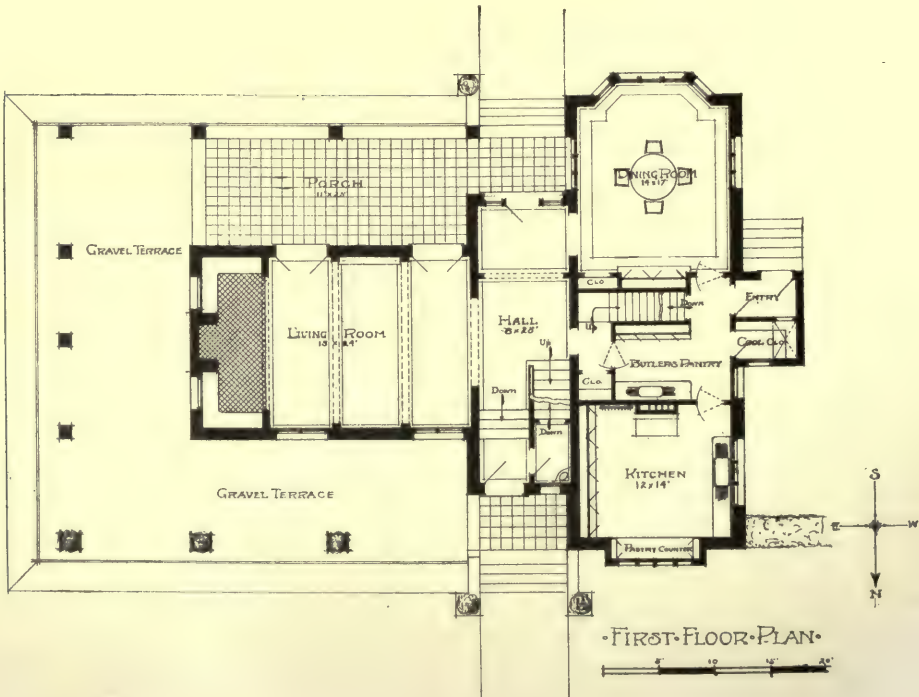


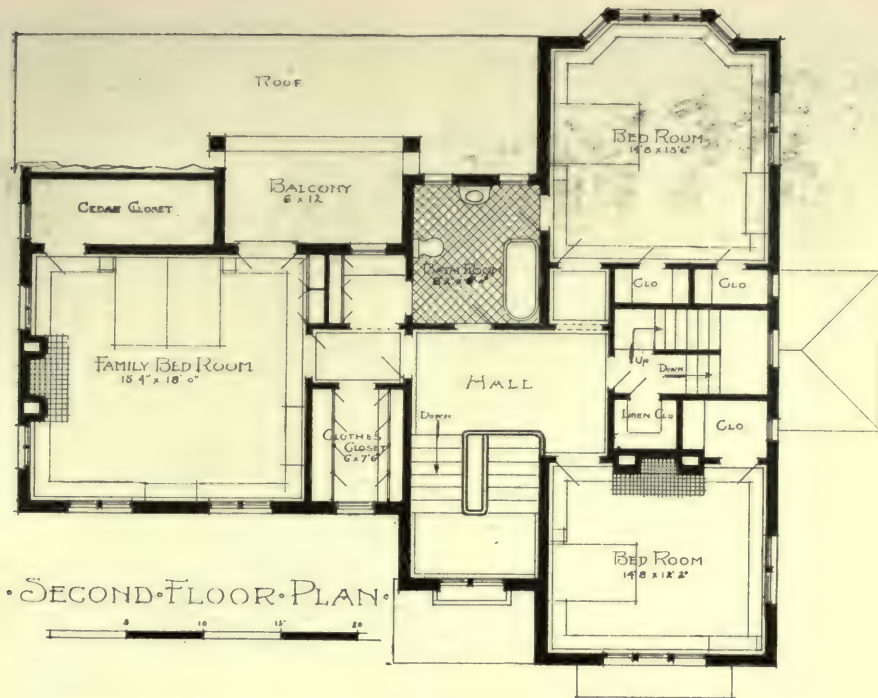
Courtesy of Universal Portland Cement Co.

William D. Mann, Designer

A Simple Country House of Cement

DESIGN "B 131"





Cottage Designs for the Home-Builder—Continued

calculated to emphasize constructive methods peculiar to the material employed, showing a variety of different "bonds" in a logical and pleasing manner. The treatment is scholarly and vigorous, producing an ideal home. The entrance porch is not the porch proper, being intended as a shelter before the entrance rather than a place for the family to assemble. Such a porch is arranged facing the formal garden and where privacy is afforded. From the vestibule one may pass directly into the living room with its beamed ceiling and large fireplace or to the reception room with its more formal decorations. The stairway leads up from the living room and the dining room is adjacent, separated by sliding doors. From the dining room, with its sideboard and fireplace one may pass to a porch or to the kitchen by way of a large pantry. There is a servants' porch, basement and back stair and a kitchen closet.

On the second floor are four chambers each with its clothes closet and a bathroom. Opening from the rear stair is also a servants' room with a private bathroom. The attic is spacious and might be divided into rooms.

The basement is provided with laundry, drying rooms, storage space, vegetable cellar, etc., and a hot water plant.

The principal first story rooms are finished in hardwoods with hardwood floors. On the second floor the finish is white enamel except the hall, the woodwork of which is continued from the floor below. The house is 28 feet by 60 feet and is estimated to cost from \$10,000 to \$12,000, according to finish and appointments.

Design "B 142"

A spacious roomy house providing a very pleasant interior arrangement and a neat exterior, the porch treatment and dormers on front of house breaking the plainness and giving individuality to the design.

The main rooms of the first floor are finished in oak or birch and hardwood floors throughout the entire first and second stories. Painted woodwork in rear of first story and entire second story. Basement under entire house, with hot water heater and laundry. Two rooms finished off in attic.

Cost, \$5,740. Width, 40 ft.; depth, 38 ft.; height of basement, 7 ft. 6 in.; first story, 10 ft. 5 in.; second story, 9 ft. 3 in.

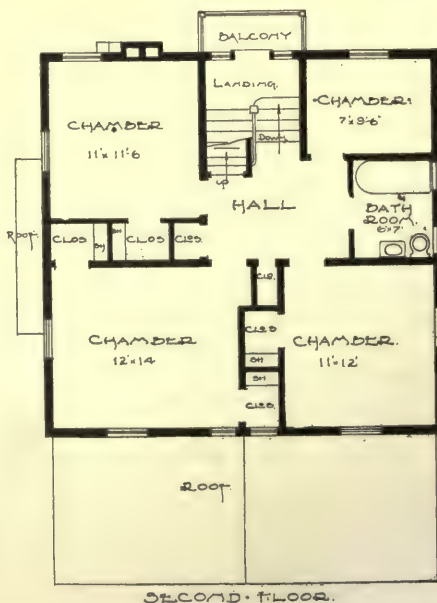
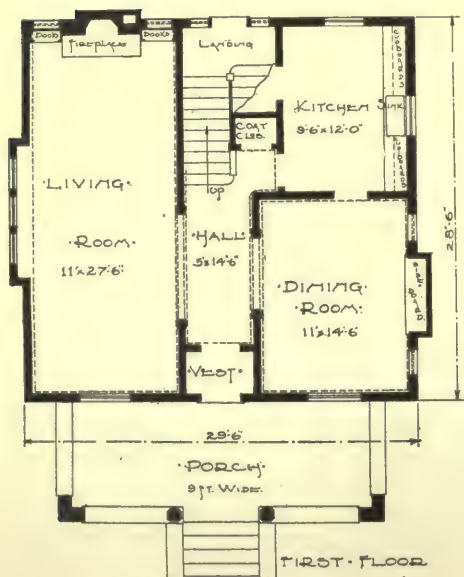


H. Edward Walker, Formerly Associated

FREMONT D. ORFF, Architect

A Square Cement House with White Trim

DESIGN "B 132"

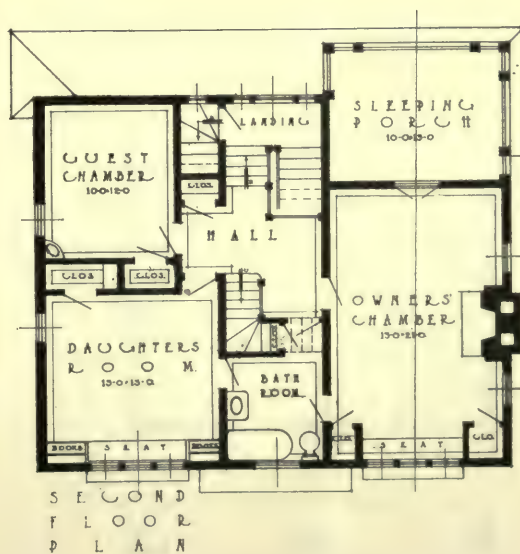
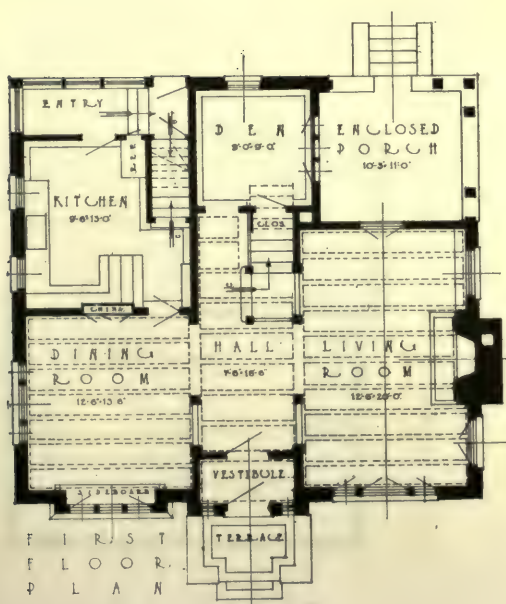




CECIL BAYLESS CHAPMAN, Architect

A Half-Timber Design in English Style

DESIGN "B 133"

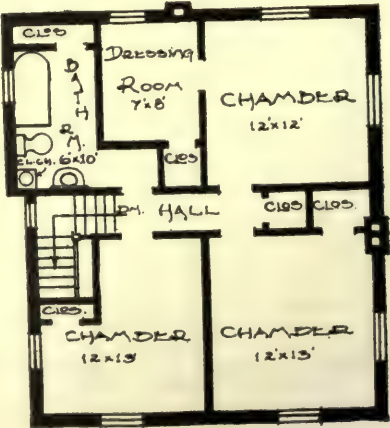
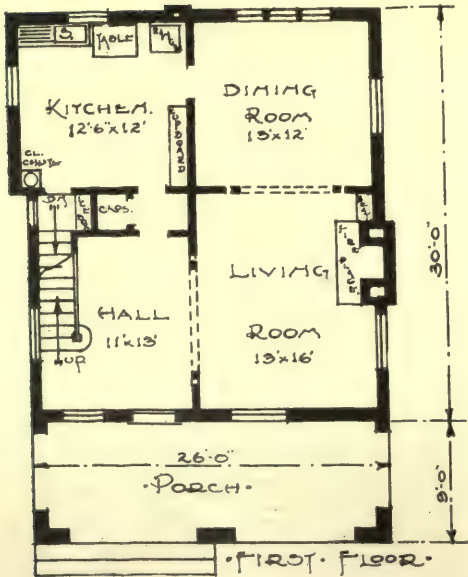




HORACE BARNARD, Owner and Designer

A Cement House of Mission Style

DESIGN "B 134"



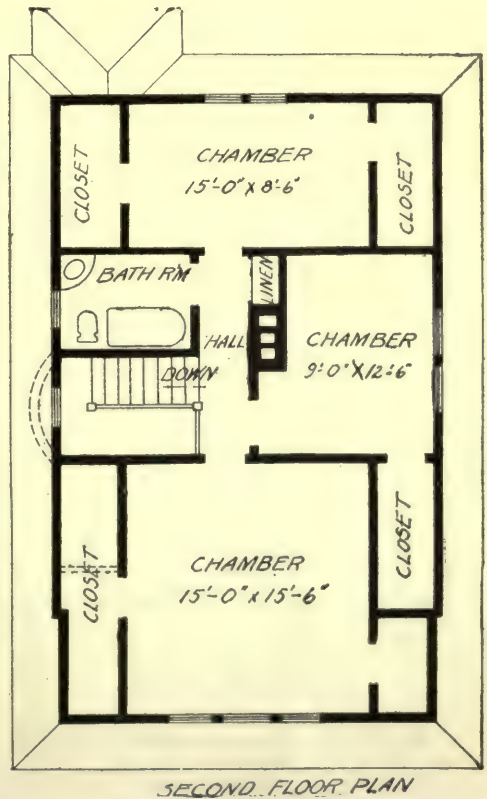
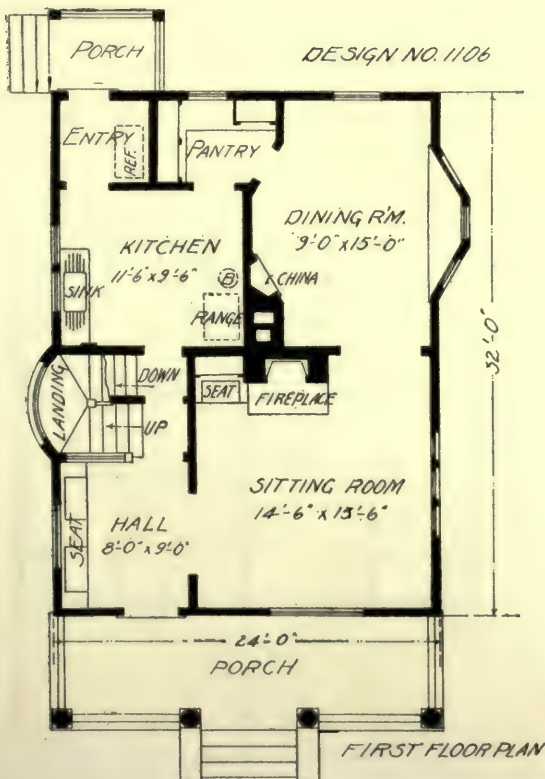
SECOND FLOOR.



THE KEITH CO., Architects

A Gambrel Roofed Cottage

DESIGN "B 135"

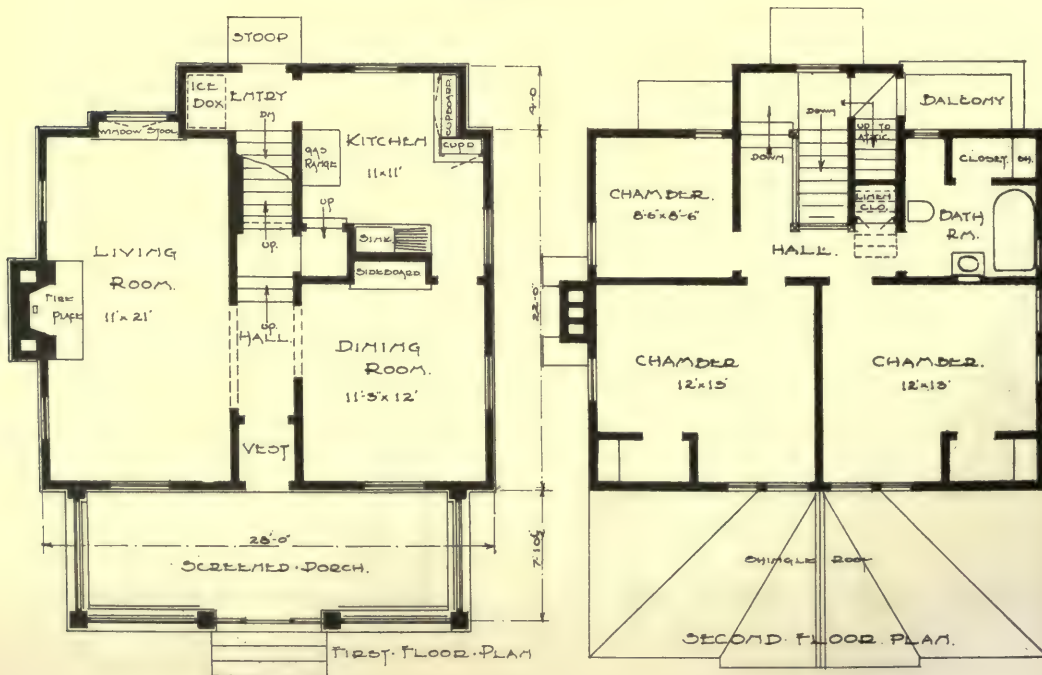


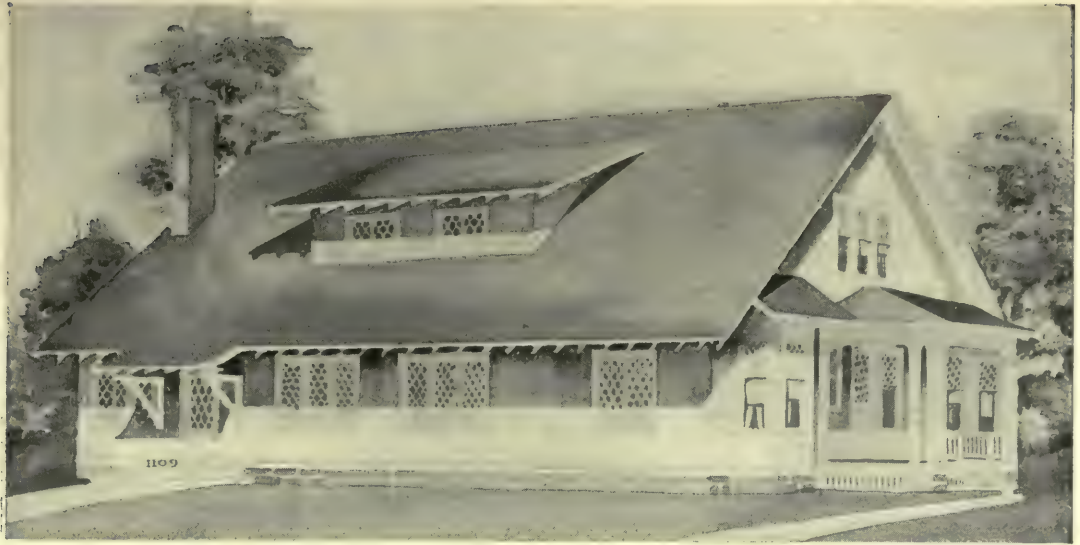


DOWNES & EADS, Architects

A Picturesque Cement Cottage

DESIGN "B 136"

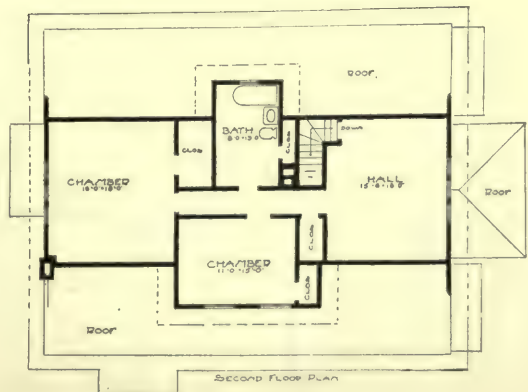
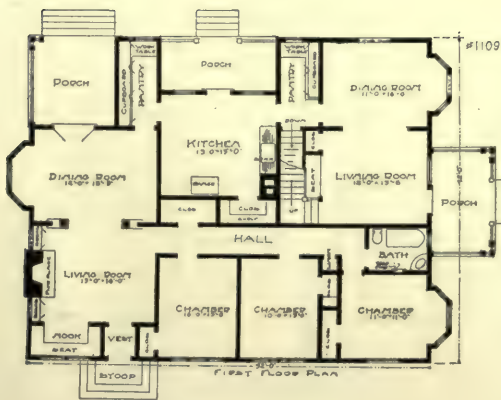




From "Duplex Houses and Flats."

An Artistic Duplex Cottage Design Suggesting the Private Residence

DESIGN "B 137"



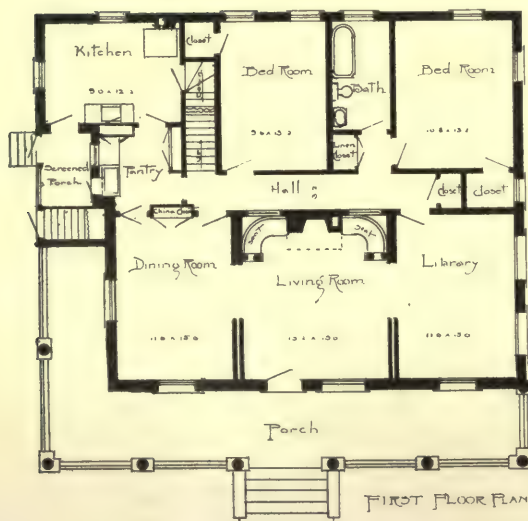


ARTHUR E. SAUNDERS. Architect

A Picturesque Brick Cottage

DESIGN "B 138"

ARTHUR E. SAUNDERS.
ARCHITECT

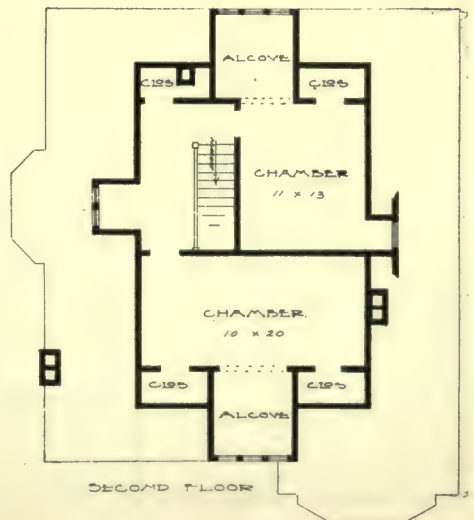
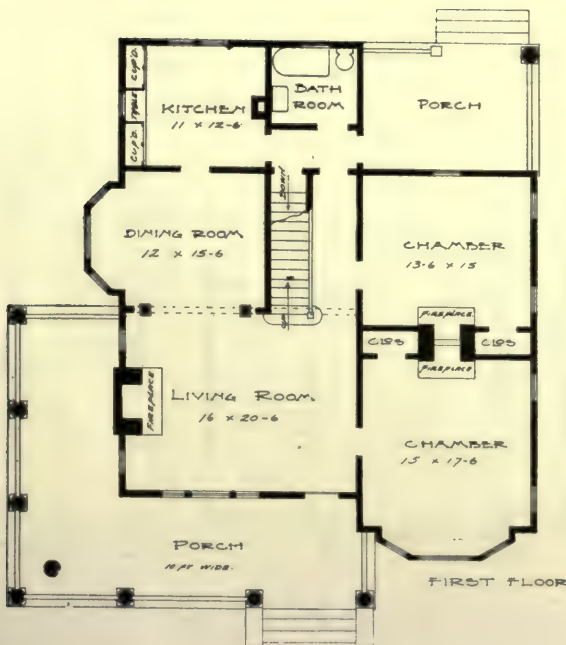




Journal of Modern Construction Series.

A Pleasing Bungalow Type

DESIGN "B 139"

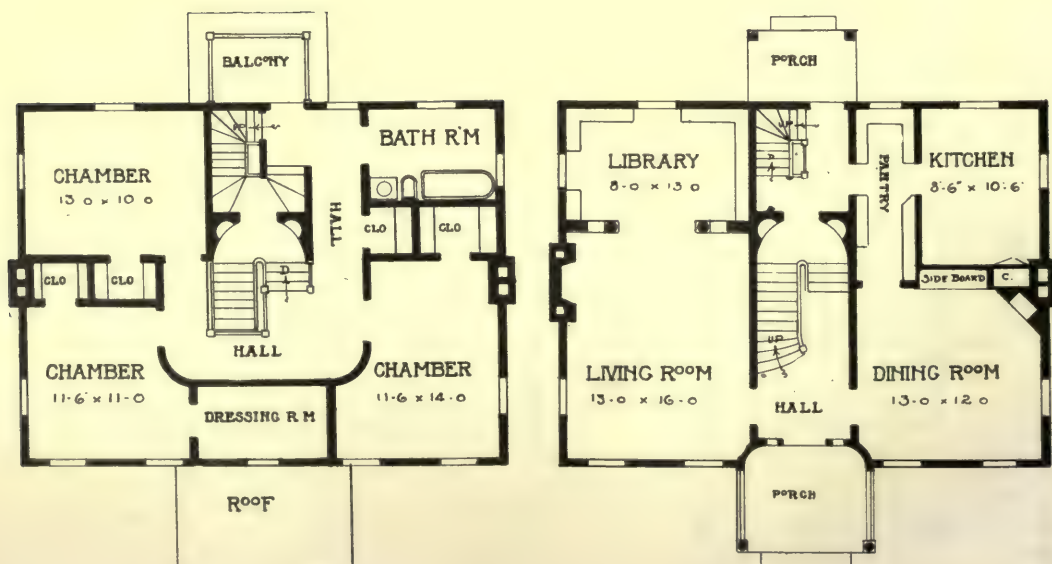


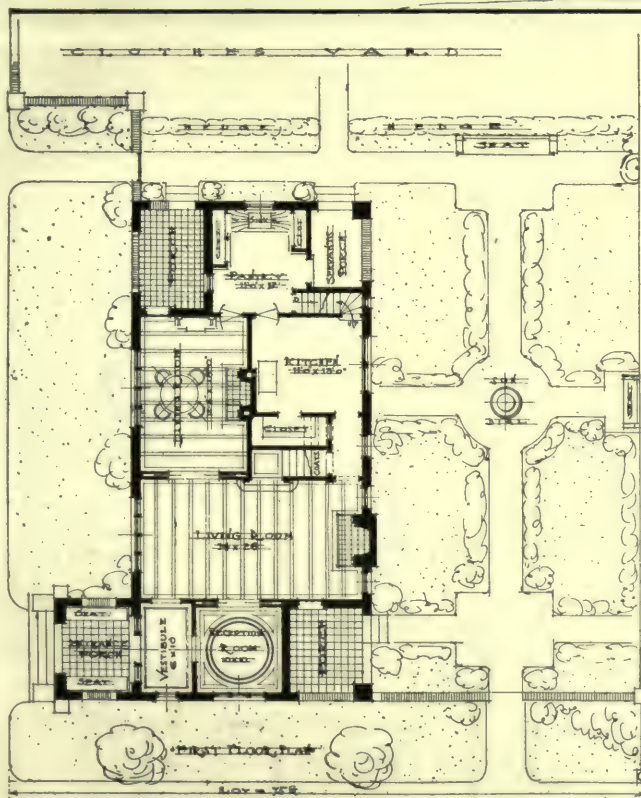


CHAS. S. SEDGWICK, Architect

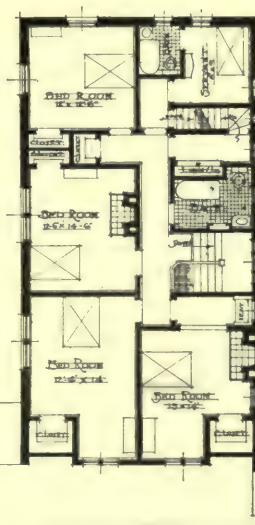
The Old Time Colonial

DESIGN "B 140"





F. A. LARGE, Architect



A SUBURBAN HOME

DESIGN "B 141"

Your Choice of the World's Finest Millwork at 50% Saving



Marquis Window,
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Toning Up.

THERE is a room which the writer sees several times a week, an exceedingly refined room, with many beautiful things in it, with a hardwood floor and a number of good Oriental rugs. The furniture is old mahogany, some of it heirlooms, the pictures are unexceptionable, the walls a light terra cotta, very pleasing in the northern exposure of this particular room. The upholstery is in canvas, of a lighter shade of terra cotta, the window curtains cream colored with figures of dull red and golden brown. Portieres at two large doors are of a petit point tapestry with a Renaissance design in dark blue, olive and light red. It sounds well and yet the room is absolutely uninteresting. What is the matter? Just the absence of any positive color. The only definite color anywhere is in the portieres, and there so blended that the result is a neutral tint. Nothing in the room catches the eye, and this special room is typical of an endless number of others.

The Abuse of Neutral Tints.

People are horribly afraid of strong color. They think that a negative scheme of color must be pleasing because it is not vulgar. So we have an epidemic of golden browns and faded terra cottas and tan colors, to say nothing of occasional excursions into gray and sage green. William Morris used to beg his pupils in decorative art to note the strong, pure colors of nature, and to refrain from mud, as he designated most of the neutral tints in vogue. Neutral tints have their function, invaluable as backgrounds, as a foil to positive color, but only as such. And, even for that purpose, they have their limitations, and

are more or less of a concession to a defective color sense. Which is more effective, the contrast of a positive and a neutral tint, or the harmony of a gamut of shades of a positive color? Undoubtedly, the harmony, but it needs an artist to achieve it, and most of us are not artists.

Mistakes.

Let us consider for a minute the mistakes in this neutral tinted room of which I have spoken. In the first place the rugs have very little character. Their patterns are small, and their general tone too low for them to look well on a golden oak floor. Either they should have been in stronger tones, or the floor should have been darker, preferably the latter alternative, as they harmonize admirably with the walls and the furnishings.

Another mistake was in the upholstery of the furniture. The terra cotta canvas is out of keeping with handsome mahogany furniture, despite the fact that it was by no means cheap. It has no texture and looks very little better than a cotton material. Better have used the tapestry of the portieres for coverings, and something else for hangings. Then the different tones of the tapestry, the soft olives, dull red and low toned blue could have been repeated in silk pillow covers, bits of embroidery, book bindings and bric-a-brac. As it is now, colored objects in the room are absolutely unrelated to anything around them, mere casual splashes.

For the tapestry hangings others of dark terra cotta velour might have been substituted, with good effect. The window curtains are well enough. The only criticism to be made upon them is that they shut out a good deal of light from a room, dark at the best. The thin-

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Decoration and Furnishing—Continued

nest of net would be more utilitarian and quite as pleasing.

Of the pictures in the room, only two or three water colors are in the right environment, and those have not light enough to bring out their best points. The others, etchings and prints of much detail, do not have enough light. Some of them have wide white mats which contrast too strongly with the walls. Brown toned photographs in dark wooden frames would be more effective, pictures whose beauty is of mass rather than line. The same criticism may be made upon the bric-a-brac, which is too dainty for a room of so dark a color scheme. Bronze, plaster casts, green or brown pottery would tell far better than cloisonne enamel ivory carvings, or Satsuma, the present ornamentation.

Are these strictures rather drastic? Possibly. Still, without shaking the complacency of many possessors of uninteresting rooms, they may point the way to reformation to someone who is not complacent, only a bit bewildered.

Equipment of the Guest Chamber.

Always supposing the institution to be a possible one, as it seldom is in city houses, the guest chamber has this advantage: You do not have to live in it all the time and it is a good place in which to try experiments. For instance, if I were inspired to experiment with lavender, confessedly the most difficult color to use successfully, I would make my first attempt in the spare bedroom.

Again, the spare room has so little hard usage that it is quite possible to indulge in daintiness out of the question in a room slept in all the time.

But the esthetic aspect of the room should be subordinate to its comfort. This would seem to be a truism, but haven't we all had some unpleasant experiences in the way of guest chambers? An illuminated invitation to "sleep sweet within this quiet room" does not compensate for the fact that we have spent a great deal of waking time in its bounds in taking thought for the numerous articles more frail than beautiful which ornament it. So many people deposit all the fancy work given them in the guest chamber. A reading lamp, a stickable pin cushion and a full ink bot-

tle are conspicuously absent. Not so the hat pin holders and the sachets and the blocks of rusty pins and the work basket with No. 30 cotton and shoe buttons.

Most people make a mistake in putting their handsomest furniture into the spare bedroom. A comfortable bed, a good light, reasonable conveniences for dressing and bathing, these are the things he needs, who is here today and gone tomorrow. Put the extra money you have to spend into a screen, a couch of some sort and a really easy chair. Have a reading lamp and keep it filled, and trimmed, and a desk or writing table with clean pens and a full ink bottle.

The best couch for a bed room is a divan with wire mattress, and a cretonne cover and pillows. It can be used at need for a child's bed. Better still is a box couch with a detachable mattress, the whole covered with cretonne. A screen should be of sufficient height and breadth to shut off the corner where the washing arrangements are complete. A carpenter will make it for you reasonably enough, and you can cover it with cretonne at slight expense.

Get one of the cheap Morris chairs, or pick one up second hand. Remove all the varnish, with one of the preparations sold for the purpose, give it two coats of white paint, and two thin ones of enamel. Make cretonne slip covers for the cushions and you will have a very personable chair, not exactly like your neighbor's.

If you are moved to have a draped toilet table of the same cretonne, have a piece of glass (it need not be French plate) fitted to its top, laid over the cretonne and fastened down through holes drilled in its corners. It is decidedly smart and saves a lot of washing. You should also have a special chair. Any sort of a straight legged chair will do, provided its back is the same width at top and bottom. Enamel it white and cut off the back so it is only about a foot high, or even less. Upholster the seat and fit a sort of cap, five inches deep, finished at the bottom with a narrow cotton gimp or fringe, to the sawed off top. In fitting out the toilet table, do not forget to add candle sticks, with colored candles, pale pink or green to harmonize with the cretonne. You can get glass

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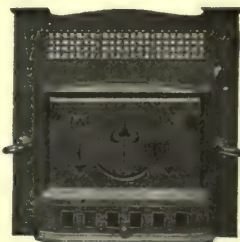


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Decoration and Furnishing—Continued

candlesticks very cheaply and they are quite good enough, especially if you add pretty shades. A little enterprise will disinter from some second hand store a mirror whose frame can be covered with a puff of cretonne, with good results.

A painted floor, its cracks carefully filled, Crex or rag rugs, a pair of single beds with cretonne spreads, the divan, the dressing table, the Morris chair and the screen, two or three good pictures, clean linen and plenty of towels, and your guest chamber is good enough for anyone, even if your cretonne has not cost more than a shilling a yard, and your curtains are nothing but cheesecloth.

Some Points on the Piano.

The upright piano is less of a white elephant than the old-fashioned square one, but it is very seldom a pleasing part of the furnishings. The temptation is always to have it stand straight along one wall, generally in the longest space, and on a line with the fireplace, and in a long and narrow parlor it is sure to emphasize the defective proportions of the room.

The best position for an upright piano, the cottage piano of English novels, is across a corner, with its back to the room. Then the player is completely

screened from her audience, an advantage to a nervous person, and one of the corners of the room is effectively disposed of. Moreover, the back of the piano can be used as a background for something. Of course this arrangement involves a covering for the back, more or less elaborate. For the average room, a curtain, shirred on a brass rod, of some thin silk is as satisfactory as anything. Or the back may be concealed by a high four-fold screen.

The back of the piano may serve as a background for a group of some sort, a small table of bric-a-brac or books, a bench heaped with gay cushions, or a large plant, on a pedestal. It is a capital place to hang a collection of miniatures, or small pictures, or medallions.

So placed, the piano is a distinct addition to the general effect of the room in which it stands. Whether that room should be the drawing room depends upon the habits of the family. In most houses it would be a distinct gain if the piano could be banished to an upstairs sitting room, but that is too much to hope for and it will probably continue to occupy its place as a parlor ornament.

So few people understand the care of a musical instrument that one caution is always in order. Do not set the piano against the chimney of the adjoining house, or where it will be exposed to dampness and draughts from an open window. The mechanism is as sensitive as if it were human, more so in fact, for human beings become acclimated, pianos never.

The Rage for Moire Effects.

The popularity of moire fabrics for clothes has extended to decoration, and textiles and wall papers alike are watered elaborately. These watered papers have much to recommend them, as most self-colored papers have, and the various tints are very beautiful, but they are quite out of place in the average room. One must have exceedingly handsome furniture and pictures in order to live up to a moire wall. If you are going to spend so much money, far better lay it out in covering your walls with Japanese grass cloth, not all of whose colors fade, and which is a permanent joy to the artistic soul.

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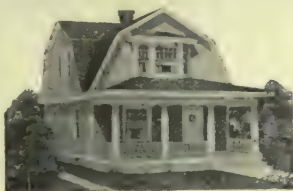
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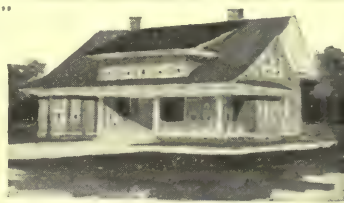


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ANSWERS TO QUESTIONS ON INTERIOR DECORATION

Editor's Note—The courtesies of our Correspondence Department are extended to all readers of Keith's Magazine. Inquiries pertaining to the decoration and furnishing of the home will be given the attention of an expert in that line.

Letters intended for answer in this column should be addressed to Decoration and Furnishing Department, and be accompanied by a diagram of floor plan.

Letters enclosing return postage will be answered by mail. Such replies as are of general interest will be published in these columns.

J. T.—I enclose floor plans and elevation of house I am building. Please advise me as to color scheme. Expect to finish with birch and stain desired color. Would you advise using rug in dining room? What is best way to finish kitchen, paint or varnish? Furniture will be all new. Would mahogany be good color for den? What we want is a good moderate priced finish. What size should rugs be?

The plan speaks for itself, so just tell us what would be the modern way of finishing and furnishing it.

J. T. Ans.—The living room and hall being thrown together by so wide an opening, should receive the same finish. The birch with mahogany stain would look handsome here, provided the stain is dark and not too red. Ash, oak or fir would be more appropriate for the den, and for the dining room, either could be used. If you like mahogany dining room furniture, then finish the room in birch stained mahogany. As this is an east facing, the room would be very pretty with a chair rail $3\frac{1}{2}$ feet from the floor, the lengthwise panel thus formed filled with leaf green grass cloth, burlaps or paper; the plate rail lined up with the tops of the openings and the space between filled with a brilliant chintz paper, birds of paradise, blossoms and green leaves on a cream ground, with cream ceiling.

The living room and hall walls in soft grey tones; the den done with an effective but inexpensive paper in browns and reds. Yes, a rug gives a finish to the dining room and the noise of chairs on the bare floor is unpleasant. Kitchen woodwork is easy to take care of if merely shellacked and varnished.

W. E. J.—I am planning to build a cottage of 7 rooms. First floor has hall

with stairway, living room, 28x15, dining room, kitchen and bedrooms, with three bedrooms and bath in attic. Expect to use concrete blocks or stone veneer for outside walls. Stuccoed cables. I would be glad to have your suggestion as to color of stained roof or would you prefer slate. Also kind of material for inside finish and color of same, whether stained or natural color. Please state color of paper for walls and ceilings. Also design of rugs, floral or oriental. Location of building site is suburban with east front and ground slopes each way from building site. Would you advise the kind of material I have in mind to use for outside walls?

W. E. J. Ans.—The dimensions of the rooms you contemplate means a cottage of considerable size. Concrete blocks are now made much superior to the first efforts in that line, and you could use them either in part or as a whole for outside walls with good effect. If the house is to be cottage style, the blocks could be used for the first story with plaster in the gables as you suggest. The plaster best be the grey color of the blocks. A red roof would then be pleasing, either of shingles stained or tile in Spanish red. The outside trim could be a dark olive green, with white window sash.

In regard to your interior, it is difficult to advise, knowing nothing of your preferences or the degree of cost you contemplate, whether hard or soft wood. For an inexpensive cottage, very nice effects can be had in soft wood either stained or painted.

As to rugs, orientals are always the best if one can afford them; they are especially desirable in the hall and living room. Floral designs are only admissible for chambers, and should be very sparingly used even there, only as borders with plain centers.

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Answers to Questions—Continued

F. E. J.—I herewith enclose part of the first floor plan of a home we are building. Would like suggestions on interior wood-work finishing.

By glancing at sketch you will notice the reception room and parlor face the north. The stairway is in the reception room, the large opening between this room and parlor finished with arch grille. My parlor furniture is mahogany. Should these two rooms be finished alike and what are your suggestions for the finish of both rooms?

There is a large opening between the parlor and sitting room. I wish to furnish the sitting room with mission furniture. How should the wood-work be finished? There is to be a large opening with columns between the sitting room on the west. I wish to furnish it in golden oak. Would you finish these two rooms alike or if not how should the columns be finished?

F. E. J. Ans.—The woodwork of hall and parlor better be the same, though it is not absolutely essential. The hall could have a fumed oak finish if oak furniture is preferred there, but in that case the opening into parlor should not be so wide and the grille should be dispensed with, while portieres would be a necessity. If mahogany furniture is used in parlor, the woodwork must be either mahogany stained or white, preferably the former with your arrangement of rooms. I should advise a birch finish stained dark mahogany for hall and parlor with fumed brown in living and dining rooms. I should transfer the columned opening to the hall and use sliding doors between living and dining room. It is a great mistake not to be able to close off the dining room. If preferred, you could have glass doors between. Two wide openings are quite sufficient and you will regret it if you have no means of closing off one room. It is also strongly advised to omit the grilles which are no longer used in up to date houses.

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A Neglected Department.

NO part of the household activity, duty or pleasure, but has its relation to the economic question. But some of these parts seem to have, at first blush, a more definite relation than others. For that reason, we seldom think of the charities of the household in any systematic way. With some of us it is a matter of giving, in one way or another, as much as we can spare, with others the matter resolves itself into the question, "How little can I decently give?"

Everyone will admit the claims of the unfortunate upon those better placed. But very few people admit those claims in such a way as to reduce their charities to a system, or to consider the best way of administering relief, so as to avoid pauperizing the recipient. Organized charity has made great strides in the last twenty years, but a large part of the prosperous still consider it a heartless machine. It has, like all other good things, its defects, and these very much on the surface, but it does efficiently what is the essence of the best sort of charity. It makes connections, exactly the thing which the poor cannot do for themselves. Somewhere there is just the sort of help adapted to every individual case of need. Organized charity, sooner or later, brings the need and its satisfaction in touch with each other.

Why not hand over all our charities to the organized charities, putting up a sign on the side door, "Applicants for aid are referred to the Charity Organization Society," giving number and street. It is an excellent way for the sort of person to whom our Elizabethan forefath-

ers referred as "A valiant beggar." Usually his valor carries him neither there nor back to us. But charity of that sort, even if backed up by a heavy subscription seems deficient in the finer elements of virtue. It is like a rose without perfume, decorative rather than attractive. It lacks the personal touch which blesses giver and recipient alike.

But it is just the personal element which leads so many kindly people astray, tempting them to the sort of charity which hurts rather than helps. You see Mary Maloney, poorly clad, evidently wretched, and the kindly impulse to relieve her immediate needs betrays you into giving her money which too often goes into the liquor saloon or is spent in absolutely foolish ways. And with every visit to your kitchen, with every dole of assistance Mary Maloney becomes less inclined to earn an honest living for herself and her family. Nor is there any evidence that the condition of the family is at all improved by your beneficence. The Maloney family approximates more and more to a sieve through which your goods and money, often representing sacrifices on your part, fall to unknown depths.

Sanctified Common Sense.

Part of the trouble with charity as ordinarily administered by individuals is that they think of it in an abstract fashion, rather than as business which must be learned. No sensible woman would treat a flower garden as she treats the Maloneys. She would study conditions and adapt means to ends. She would realize that some plants need stimulation, others must be kept back. She would see that each plant had just the right al-



Lola L. Howe, Architect, Boston

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Household Economics—Continued

lowance of water and sunshine, and she would not flood her beds because she had a plenty of water and liked to be liberal.

Beginning with the Breadwinner.

In all this, I am thinking of each household of well-to-do people as having relations with at least one poor family, of the sort, which more or less regularly, needs help of some sort. If every prosperous family in the community would assume this responsibility, the problem of the poor would be largely solved. Incidentally their relation helps to solve some of the problems of the prosperous family, as well.

Given the assumption of this relation to one poor family, the probabilities are that there is a man at the head of it, and that its misfortunes are more or less due to his misconduct or mismanagement. It is just at this point that many of us fail in helping the poor efficiently. We restrict ourselves to dealings with the women and children of the family, knowing, and known to, the man only at second hand. There we make a mistake for, in most cases, we might have far more influence over him than we generally acquire over his wife. A man of the poorer classes is far more likely than a woman to meet advances exactly as they are meant. Tact and sincere friendliness will often accomplish wonders with him. Unless he is hopelessly demoralized, the first

help to the unfortunate family, after its crying needs of food and shelter have been satisfied, should be directed toward him. Decent clothing, warm underwear, substantial shoes will raise his self respect and increase his chances of getting employment, if idle, or of retaining it under difficult conditions.

Intelligent help for the poor involves another ability, that of seeing things out of their eyes. We are too apt to feel sympathy with them for ills which do not appear to them as such. We lament over their lack of the refinements of life, forgetting that they have not been trained to appreciate them. We pity them for being obliged to eat coarse food, for their lack of privacy and of sanitary arrangements which seem to us indispensable. The surest proof that we are wrong in this is the course of domestic servants, who have been used to all these things, yet, marrying comfortably, deliberately elect the lower standard.

Poverty is a hard thing, but we have made it infinitely worse if, by our insistence on the adoption of our own standard we have added to its sting the subtle poison of discontent.

Taking Advantage of Lowered Prices.

The hand to mouth system of purchasing has its merits, especially where servants are concerned, and we know it is the underlying principle of French house-keeping, the most economical in the world, but it has its limitations. It is well to make exceptions in favor of purchasing in quantities at times of special cheapness.

In the spring eggs are always cheap. Now is the time to make and pack away in a tin box, with plentiful wrappings of waxed paper a big loaf of pound cake and another of lady cake, perhaps also a loaf of fruit cake, ready for summer emergencies. A two quart jar of mayonnaise dressing will keep for weeks in a dark corner of the refrigerator, indefinitely, if it is put up in small bottles and sealed.

Another advantageous purchase in early spring is that of oranges for marmalade. It is an easily made sweet and the home made article costs less than half the price of the imported. Small economies like these involve little trouble but make themselves pleasantly perceptible in the course of the year.



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It tells all about the "Monroe," the refrigerator with inner walls made in one piece from undreakable SOLID PORCELAIN an inch thick and highly glazed, with every corner rounded. No cracks or crevices anywhere. The "Monroe" is as easy to keep clean as a china bowl.

The "Monroe"

Most other refrigerators have cracks and corners which cannot be cleaned. Here, particles of food collect and breed germs by the million. These germs get into your food and make it poison, and the family suffers—from no traceable cause.

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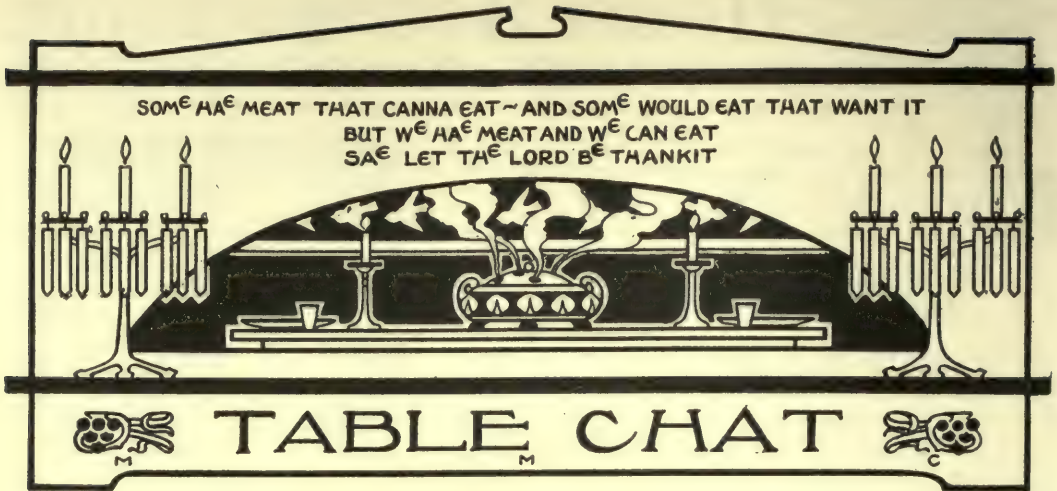
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ARCHITECT



Fruits and Flowers.

AFTER a good many years of disuse fruit as a table decoration has come back. Grapes, white, green, purple and pink, are the most manageable fruit for the purpose, and almost always to be had but apples, pears and oranges are not to be despised.

Fruit and flowers are often combined for a centerpiece, and special dishes come for the purpose, with receptacles for flowers at the edges. These are in Dresden china, with openwork borders.

Charming color schemes suggest themselves for these combinations. Green and purple grapes and violets is one; another is green grapes and daffodils; still another in bananas, oranges and French marigolds. A flower to be had in early spring which is very decorative in conjunction with fruit is the acacia.

Chinese Lilies.

If one's china is green, or white and gold, there is no prettier centerpiece for ordinary occasions than a green bowl of Chinese lilies. That is to say if one is successful in getting them to bloom. Sometimes the florist will part with a clump of blossoming lilies for a small consideration. They are equally pretty in a blue bowl.

Simple Linens for the Bare Table.

Using a polished table for luncheon is such a pretty fashion that it should not be rendered troublesome by insisting upon too many doyleys. It is very nice indeed to have a doyley for each place, with

a matching centre piece, but it is not absolutely necessary. There are several other ways of doing. One is to have a set of three pieces, carving cloth, centre piece and tray cloth, which need not be embroidered, but should match. Heavy linen with an edge of lace is admirable for these, or they may be of damask, hemstitched, the end pieces oblong, the centre square. A touch of individuality is given by the initials of the mistress of the house, either in white, or in the color predominating in the china.

Another way is to have a strip of linen half a yard wide, running from end to end of the table, or hanging over a quarter of a yard, its ends finished with lace, or fringed. Matching squares may be laid under the plates of those who sit at the sides of the table. This arrangement is often carried out in heavy crash of homespun linen for a Craftsman dining room, and is in much better taste than fine laces and embroideries. A very little artistic skill will enable one to adapt the pattern of the wall paper to the ornamentation of these runners, using heavy linen thread or crewel to carry out the design.

For the round table used by four people, or less, a square of linen or damask, put on diagonally, its points under the plates, answers capitally. Instead of embroidery it may have an inset of wide linen insertion, or medallions of Cluny, or squares of filet, set in at intervals, the dark wood underneath bringing out the pattern charmingly.



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Table Chat—Continued

Outlining Table Damask.

A mode of decoration at the command of anyone who can sew at all is to pick out the pattern on a damask tray cloth with fine outline stitch, using mercerized cotton for the purpose, enriching the design with a few French knots.

When the general effect of the table is considered, one gets better results with one large piece of handsome linen than from a multiplicity of small embroideries. So many pieces are apt to obscure the beauty of the surface of polished wood, besides being a great deal of trouble. We ought to try to eliminate fussiness, in all our household ways, and we shall certainly do so if we substitute one handsome, easily laundered piece for a dozen.

The Craftsman or Mission Dining Room.

There is one point in connection with the popular Mission furnishing too often neglected. People seem to think they can use exactly the same sort of china and table furnishings as they would with golden oak or mahogany. Never was a greater mistake. As well cover the walls with a Louis Seize paper, all ribbons and garlands, as to put the faded daintiness of Limoge china and Kensington embroideries into contrast with the bold outlines and rough finish of weathered oak. Canton china, some of the strongly colored Japanese wares, as Kaga, copper, brass, pottery of definite color, these are the things for the Mission dining room. If your belongings are of a different sort, think twice before you give the order for a Mission dining room.

Saving of Tablecloth.

The writer has an acquaintance who is most successful in keeping her tablecloths spotless, and some of her ways may be suggestive.

At her own right hand stands a tray large enough to hold the tea or coffee pot and one cup, and whatever beverage is served is poured out upon the tray.

At the other end of the table, the cloth is protected by a large carving cloth and, as men have a way of rumpling up such things, it is stiffly starched and ironed without folding.

Any dish whose contents are specially

liquid is set upon a plate. If it is a open oval dish it is set into a platter a little larger. In serving the dessert, sherbet glasses, set upon small plates, are used for all cold puddings, while for fruit pie and solid hot puddings a plate larger than the ordinary dessert plate is used. All these precautions would be of no effect if the maid were not carefully trained to wipe the bottom of every dish which has been in contact with the range.

Coasters.

The coasters which are shown in such quantities in the house-furnishing shops are an assistance in keeping the tablecloth clean. The smallest size is useful for tumblers, larger sizes for the oil cruet, the milk jug, or the carafe. Some of them are very expensive, crystal and solid silver, or silver deposit, and are really works of art, but there is also a great variety of inexpensive ones, of foreign manufacture. These have porcelain bottoms and an openwork edge of nickel or silver plate. A set of a tray and six coasters can be had as cheaply as a dollar and a quarter. Some specially pretty ones are in blue and white china.

Pumpkin Pudding.

A dainty which may appeal to people who object to pie is a pumpkin pudding, made from the canned pumpkin, or squash. It is made like the mixture for pies, but with less pumpkin, an additional egg and cream instead of milk. Evaporated milk diluted to the richness of cream will answer very well. Bake the mixture in a rather deep pudding dish, serving it very cold. You may, if you choose, use the yolks of the eggs only, saving the whites for a meringue.

Serving Small Birds.

Small birds of any sort, squabs, tiny chickens or ducklings may be served upon thick slices of fried hominy. The hominy should be of the pearl sort, made very stiff, cooled in a dish of sufficient size to admit of cutting large slices, and should be prepared the day before. Fry the slices brown in deep fat. Lay the birds on the slices of hominy, with a border of lettuce, garnishing the dish with thick slices of orange with the peel on. Pass French dressing and currant jelly.



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the result of the experience of many years in the business by similar concerns about Chicago, and is therefore today the most up-to-date plant of the kind in the United States.

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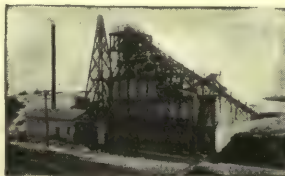
The tests made recently by the U. S. Geological Survey have demonstrated that concrete is the greatest fire resistant and non-conductor of all building material. The San Francisco fire absolutely proved this, and the new San Francisco is almost all concrete. It has been shown also that concrete containing gravel and no calcarious substances, which are liable to disintegrate through calcination when subjected to extreme heat, is by far the best for all building purposes. The idea of cleaning and washing gravel has been perfected in this country to the highest point in and about Chicago, where there are now a score or more of gravel washing plants, with capacities ranging from 200 to 3,000 cubic yards per day. The capacity of this plant is 500 cubic yards of sand and granite and trap, and gravel per day, superior to the Chicago product in quality.

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ent exteriors and the attractive English Half Timber designs.

The use of concrete as a material for the construction of residences has increased with such strides of late that we have found nearly every other prospective home-builder inquires about designs in concrete. We have been working on a superb collection of such designs for a good many months, obtaining photographs of some of the choicest work to be seen and now offer

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Cement—Continued

The Recent Show at Chicago

Furthering the interests and great development of the cement industry, there has just closed at Chicago, one of the most successful and interesting cement shows held in this country. This year, not only was the show a great success from the standpoint of fine exhibits, interest and education to those attending the same, but in the more practical direction—the actual volume of business transacted by the exhibitors. As a rule, exhibitors at national shows of this kind, consider that the general benefit from publicity is sufficient recompense for the expense and effort for such affairs. This year, however, a number of concerns took a great many orders.

There were many more individual exhibitors this year than before and the entire floor space of the large Coliseum in Chicago which is a mammoth hall, was occupied to advantage. The balcony space was crowded as well as the annex. The Portland cement manufacturers' exhibits, represented some of the finest displays, particular among these being the exhibits of the Atlas Portland Cement Co., The Universal Portland Cement Co., The Chicago Portland Cement Co. and the Lawrence Portland Cement Co. More prominent this year than ever before, were the exhibits of the waterproofing compound concerns. It was noticed that the De Smet exhibit attracted unusual attention. The Sandusky Co. had a most interesting display of their Medusa waterproof compound, as well as Dexter Bros. of Boston; the Illinois Damp Proofing Co., and the National Waterproofing Co.

Representative Journals of the building industry were on hand and showed unusual spirit and energy in getting their publications to the notice of every one attending the show. The publications devoted principally to the interests of concrete construction were always in large demand, though many of the more technical and engineering papers were represented. Personally, we were very much pleased with the courtesies extended to us as an exhibitor and with the business written during the week of the show at our booth.

Everyone seemed greatly pleased; there was a splendid spirit of co-operation between the management and the exhibitors and the results of this show will encourage further effort for another year.



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This portfolio contains definite and workable suggestions for every room in the house, for the treatment of walls, floors, ceilings, woodwork, rugs, hangings and furniture, giving color schemes and exact specifications for each surface, and is a part of the system of help in home decoration offered free. This portfolio will be sent to anyone who desires to decorate or re-decorate a room or an entire house. There is no string tied to it, but bear in mind that you cannot get the results as shown in this portfolio unless you use Sherwin-Williams' products.

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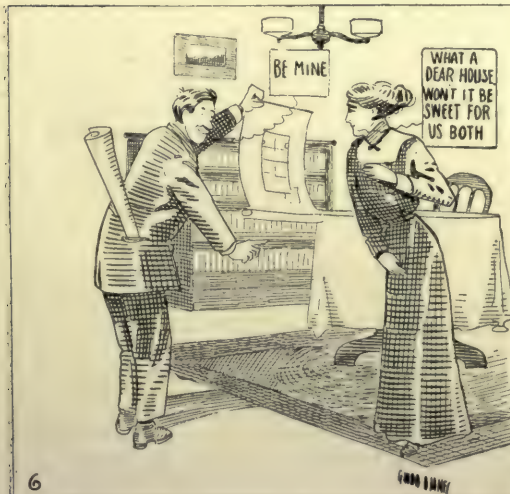
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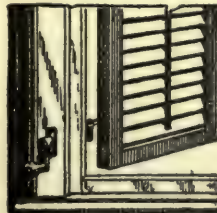
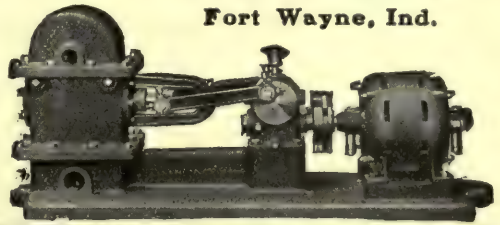
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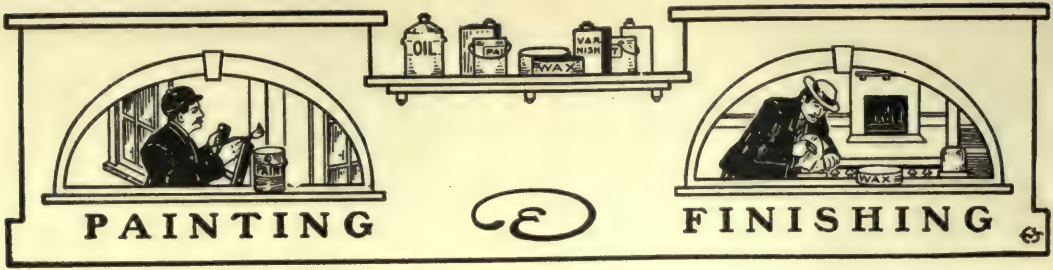
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How to Protect Structural Metals.

Courtesy of O. C. Hamm.

(Continued from March Number.)

Mixing and Applying the Paint.

General Cautions.—Where parts of iron and steel are unusually exposed to corroding or abrasive influences, they should receive extra attention in the matter of painting and preferably an extra coat should be applied to all such places. Thus all bolts, rivet-heads, all edges and all corners, should have an extra coat of protective paint so that at these points the paint may be thicker than where the surface is simply flat and therefore not subject to especially destructive influences.

All parts in contact should be flushed fully with paint as it is at such points that corrosion is apt to be especially insidious. Engineering construction should provide for the accessibility of all parts for the purpose of painting.

In all cases the application of the paint should be done by competent workmen, using round brushes wherever practicable. The round, pound brush is an excellent type of brush to use.

The paint should be of such thickness as to require a strong arm and wrist to brush it out.

Structural Iron Work for Buildings.—

In buildings, structural iron and steel are generally encased in brick or concrete. We have already called attention to the advisability of painting structural iron and steel which is so encased. All such structural metal work should receive three coats of red lead paint, and in addition, such touching up of edges and rivet-heads and bolts as may be necessary to thoroughly protect these especially exposed parts. The first coat should be of pure red lead and linseed oil (Formula No. 1). The second coat should be red lead and linseed oil with an ounce of lamp black in oil added for

the purpose of changing the tint (Formula No. 2). The third or finishing coat may be a darker red-lead coat (Formula No. 4), a dark olive (Formula No. 6) or it may be a black coat of finely ground graphite or lamp black (Formula No. 5). The addition of a small percentage of varnish to this finishing coat will improve its quality.

Bridges, Viaducts and Elevated Roads.

—Structural iron and steel exposed as it is on bridges, viaducts, elevated roads and all similar structures should receive the same treatment as described above for iron work except that they should have four coats instead of three, consisting of two protective coats of red lead and linseed oil (Formulas 1 and 2) and two finishing coats. The finishing coats may be of any color desired, and material should be chosen according to circumstances. (See "Finishing Paints.")

The first finishing coat should be put on somewhat flat or dead, while the final coat should have a full gloss. Care should be especially observed in the proper painting of inaccessible parts before erection.

Subways.—In the painting of iron and steel in subways the same general rule should be observed as for bridges and viaducts (paragraph preceding), except that the bases of all columns and vertical supports should have five coats of paint. The first two coats should be red lead in linseed oil (Formulas 1 and 2). The finishing coats may be as described above for "Structural Iron Work for Buildings," except where a white finish is desired. In such cases the third coat should be of white lead in linseed oil mixed according to Formula No. 9. The fourth coat should be white lead in linseed oil mixed according to Formula No. 10.

If an enamel finish is desired on top of this fourth coat, finish with Formula No. 11.

Plain Words From a Painter To a House-Owner



YOU would think that painters averaged better than bankers, lawyers or merchants, the way people trust them," said an old painter to a property-owner who had called him in to tell him why his painting had gone wrong.

¶ "Painters will average just as high in skill and honesty as any class, perhaps," he continued, "but don't think that good painters have no unworthy competitors. We have fakirs to contend with in our trade as much as you do in yours. And you property-owners make it hard for those of us who try to do the right thing. You leave everything to the painter.

¶ "But what painter? The one who bids lowest. What do you expect the cheapest man in the bunch will do to you when you leave it all to him? Of course you get stung sometimes.

¶ "There is nothing much wrong with this job except that the painter used a substitute for pure white lead and did his work too hurriedly. I suppose he had to do it in order to make anything on what you paid him."

¶ The old painter was right. Specify pure white lead guaranteed by the "Dutch Boy Painter" for all your painting and give the good painters in your community an even chance. Then allow them time to do the work right. It pays in the end.

¶ Take a step toward being paint-wise (and money-wise) by asking us for "Dutch Boy Paint Adviser No. 1. Includes information on painting, decoration (in the house and out) flower and shrubbery arrangement, etc., a most valuable collection of booklets—free.

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Painting and Finishing—Continued

The bases of columns and vertical supports, for which we have advised a fifth coat, should receive three coats of red lead in linseed oil, the first and third being mixed according to Formula No. 1, the second coat according to Formula No. 2 and the fourth and fifth coats according to the finish desired. (See "Finishing Paints.")

Decorative Iron Work.—Railings, grilles, fences, fire-escapes and similar metal work should be painted the same as bridges, viaducts and elevated roads. The finishing paint will depend largely on the decorative demands. The first finishing coat should be applied somewhat flat and the final coat with full gloss. Black, dark olive and dark brown are serviceable for finishing coats. Black may be obtained with lamp black, dark olive by using Formula No. 6, and dark brown by using Formula No. 7.

Tin Roofs and Tin Side-Sheathing.—The foundation for a tin roof should be very tight, for the rusting of such roofs usually begins underneath, not on top. It would be good practice to lay tin roofing on building paper. Every piece of tin should have one coat of red lead (Formula No. 1) on its under side before being laid.

After thoroughly cleaning to remove the rosin and fluxing materials, the completed roof should receive two coats of protective paint. (Formulas Nos. 1 and 3.) The finishing coat may be a red lead paint with from four to sixteen ounces of lamp black to the gallon (see Formulas Nos. 4 and 7), or any good paint which will give the tint desired. Formula No. 7 gives a rich brown and is very desirable, but in specifying be careful that an iron-oxide paint is not substituted. The latter will imitate the red-lead and lamp-black paint very closely in appearance but is not so durable.

Painting Galvanized Iron.—Galvanized iron is sheet iron coated with zinc by dipping or by means of galvanic or electric action. The process was invented and is used in an attempt to protect the iron from corrosion. The method is unsatisfactory alone, however, and it is found necessary to paint galvanized iron the same as any other form of the metal.

Its greatest advantage is the fact that it can be soldered and can therefore be used for cornices. Its great disadvantage is that, while it requires painting, it resists paint. Unless very carefully done the best paint will peel from it.

Where practicable it is a good plan to let the galvanized iron weather until it has developed a tooth, then clean the surface with a wire brush. This is frequently impracticable, however, and the following method of preparing the surface is recommended by a great many excellent painters, although our own experiments with it have not been so uniformly successful as to justify a sweeping endorsement:

In one gallon of soft water dissolve two ounces each of copper chloride, copper nitrate and sal ammoniac, then add two ounces of crude hydrochloric acid. This must be done in an earthen or glass vessel, never in tin or other metal receptacle. Apply the solution with a wide, flat brush.

Finishing Paints.

When iron and steel have had a sufficient number of coats of good protective paint, the problem is to select suitable finishing paints. Generally speaking, any good paint can be applied over a suitable foundation. By good paints we mean paints that, selected as to color for artistic reasons, are reasonably impermeable and contain no actually deleterious constituents. If the paint is to be exposed out of doors, more care should be exercised in the selection of the paint to be used than if the paint is not to be exposed.

It can be considered good practice to have the finishing coat of a color close to that of the original iron: that is, if the two or more protective coats start as red, one or two finishing coats of black paint on top of this would ensure fairly complete protection and covering of the metal. The black paint could not be applied imperfectly without such imperfect application becoming immediately noticed by the showing through of the red protective coatings.

Where the iron and steel are exposed, the kind of finishing paint to use depends upon the color desired.

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which is the highest possible quality, is really less expensive, even at a somewhat higher price per gallon.

Because of this extra quality, High Standard, machine-mixed paint lasts years LONGER than other paint, covers MORE square feet per gallon, and is always uniform—an advantage which rule-o'-thumb painters cannot possess. And it leaves the surface in good condition for repainting—a most important factor in cost.

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Painting and Finishing—Continued

similarly exposed, a black paint is to be preferred. For decorative purposes, it is often desirable to use a dark olive. For interior work, enamel paints are sometimes used; in which case, white lead or zinc enamels are to be preferred to those made from lithopone.

A small amount of varnish is sometimes used also in other finishing paints besides enamels. There is no objection to this, as it adds hardness and impermeability to the coat. When such paints begin to decay, however, they are apt to decay with great rapidity and consequently should be watched carefully.

In certain places, such as train sheds, where the color is not important, it has been difficult to obtain satisfactory protection on account of the sulphur in the engine smoke; and in such cases the best protection on record has been obtained by applying, over the wet paint, sheets of thin paraffin paper, subsequently giving this also a coat of paint.

There are so many conditions which determine the kind of paint to be used as a finishing paint that we can simply conclude this phase of the subject by repeating that, when a good foundation paint has been applied to iron and steel, any good paint can be used over it as a finishing paint.

Tints for Finishing Coats.

In cases where decoration is important and especially where the painted iron work should be brought into harmony with the surrounding color scheme, it is very often desirable to use white or light tints. In all such cases pure white lead and linseed oil is the finishing paint to use. These materials make the most durable finishing paint for average conditions and by using with them the proper tinting colors, any desired tint or shade can be obtained.

White lead and linseed oil are especially adapted for use over red lead and linseed oil, because linseed oil dries much the same with these two pigments and therefore the two paints make a homogeneous film, as regards the dried-oil component.

A word of caution should be given upon the use of red lead and lamp black to form a brown. (Formula No. 7.)

This gives a color which can be very easily imitated by the brown oxides of iron and care should be exercised that the latter is not substituted for the more durable red lead.

(Formulas referred to will be found in the May issue.)

A Quaint Effect in Den Decorating

In a small, low-ceiled room, used as a den, a quaint effect has been obtained, says the *Painters' Magazine*, by the use of a dado, about four and a half feet high, made from a grotesquely figured Japanese matting, turned sideways and covered at the bottom by the wainscot cap, and at the top by a molding which forms the bottom member of the supporting band for a shelf, about six inches broad, that is carried on pairs of brackets at intervals, runs round the room and serves to support a collection of pottery and bric-a-brac gathered up in numerous trips out of the beaten pathways of travel. The upper wall is made of a plastic relief compound, a greenish gray tone, put on through a wire mesh, to give the effect of texture. This background has been divided into panels by flat oak moldings about two and a half inches wide. Long rectangular panels are surmounted by smaller square panels, with diagonal pieces, the direction reversing in the adjoining panels to give the effect of diagonal bracing. A broad chimney piece, built of light red mottled brick, rises to the height of the wainscot shelf. The casement windows are made up of a series of diamond-shaped pane, set in wood muntins. The white plastered ceiling is divided into square panels by similar moldings to those on the upper walls. The floor is of oak, stained dark and partially covered with a fluff rug, woven like a rag carpet from pieces of old brussels and ingrain carpets. The furniture is solid and heavy—broad-armed splint chairs with loose cushions and a box divan heaped with gay sofa pillows and a large mission table that serves as a writing desk.

To find the number of square yards in a floor or wall, multiply the length by the width or height (in feet) and divide the product by 9—the result will be square yards.

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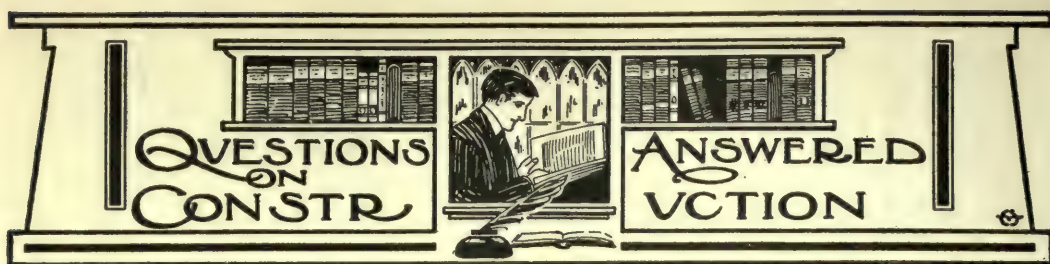
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M. L. KEITH, Lumber Exchange Bldg., Minneapolis



R. J.—In the January number of your magazine you tell of a man in Bloomington, Ill., mixing lamp black with cement to give it a darker color. Will you please give me the proportion of lamp black used to get this effect?

R. J. Ans.—In reference to the mixing of lamp black with cement to give it a darker color, will say that the best way to get it the exact shade would be a series of experiments on a small scale. You can get a small portion of lamp black and taking several portions of cement with one of lamp black and mixing it dry. This will give you an idea of what the color will be after it has been wet, has set and dried out.

A little care must be exercised in keeping track of the proportions used until satisfactory results are obtained. The quantities may then be mixed with the proportion.

We are not in possession of any data of exact measurements or we would forward them to you. In any case we expect you will get better results in obtaining the right shade than by any formula that we might send. It possibly might contain more or less of the material than you desire.

Drying New Buildings.

F. A. T.—In correspondence with friends in Europe, I have asked concerning methods of drying new buildings abroad, but my people being engaged in other occupations cannot give me satisfactory information. Can you give me the required data as I believe some improvement has been made upon the methods employed here and they might be of service to me in my business as a building contractor.

F. A. T. Ans.

U. S. Consul Charles N. Daniels, of Sheffield, furnishes the following information concerning a demonstration of a

hygienic system recently given in that English city in which builders took considerable interest:

Hitherto occupation of newly built houses has been delayed in order to allow them to dry, but with the use of this new apparatus, freshly plastered rooms can be perfectly dried within three days, and the excessive moisture of the walls completely extracted.

The apparatus consists of a stove with a fire box, suitable for coke fuel, surrounded by a number of small-diameter tubes, similar to gas pipes. By means of the apparatus, fresh, dry outside air enters constantly into the air-supply tubes, and is highly heated in the tubes surrounding the fireplace. It ascends in a dry-heated state in the room, passes along the ceiling and walls, and absorbs the dampness, sinking down after being saturated with the same and re-entering the apparatus. It then mixes with the coke gases in the outlet tube for the smoke, and eventually escapes into the chimney.

This constantly renewed fresh outside air furnishes an abundance of carbonic acid to the mortar, thus hardening it, and producing in a short time the same effect as if the mortar had dried naturally. It is claimed by this system that no moisture can possibly show later on.

A striking recommendation for the apparatus is that the German law prohibiting the habitation of any house until six months after construction is abrogated by the authorities where this system is used.

Silver Plating Without a Battery.

D. E. P.—I am at quite a distance from anyone in the plating business and have a few small pieces of shelf hardware that I desire to give a plating of silver. The question is perhaps unusual for your magazine but I will be obliged if you



PERSONAL attention to the selection of hardware trimmings will be to your advantage if you are building or remodeling a home. Quality and durability of the hardware, the style of architecture with which it is to harmonize, your architect's advice and your own taste should all be considered in determining the design. The result is certain to be entirely satisfactory if the chosen pattern is selected from

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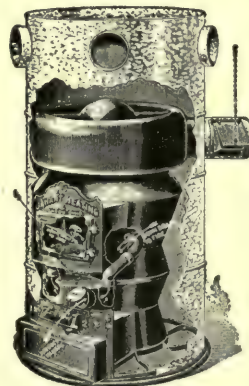
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202 Howard St. Akron, Ohio

Answers to Questions on Construction—Continued

can tell me if I can plate these pieces without a battery and how to do it.

D. E. P. Ans.—Your question is indeed somewhat outside of our information but we have succeeded in locating the information from Electrical Mechanics as follows:

Dissolve eight silver quarters (money) or silver of equivalent amount in two ounces of nitric acid (strong), and to this add four ounces of common salt dissolved in as little water as possible. A heavy precipitate is silver chloride. Decant the liquid, add more salt solution to see if all the silver has been taken out. Wash the silver chloride precipitate with water and then dissolve it in a solution composed of two ounces potassium cyanide and three ounces sodium hyposulphite in 6 ounces of water. Filter the solution, if necessary, and make up to two quarts with pure rain water. Hang the articles to be plated in the solution suspended by a strip of lead or immerse the articles and boil them for ten to twenty minutes, according to the thickness of the plating desired. The articles to be plated must be free from grease, fat and dirt. By this method we get a

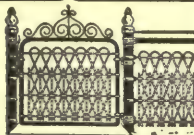
durable and handsome silver plating on watch chains, rings, medals, watches, ornaments and german silver articles.

E. H.—Last fall we erected a new storage building with gable roof alongside of a similar one we already had built and in joining the two buildings we had to make a gutter the whole length of the building, which I fear we made a fatal mistake as it leaks like a sprinkling can. Now the snow is commencing to melt. We finished it with felt the same as the other roof with a fall of about 12 inches in 120 feet. I ask you for advice regarding this gutter, and what way would be the best to fit it right so it will not cause us any further trouble. I might say we lapped the felt about 6 inches and stuck it down, also coated over it with seam composition two or three coats and sanded the last coat, but all to no avail.

E. H. Ans.—In reference to leaking roofs between the two buildings you have erected. It would seem to us that there was not sufficient pitch to the gutter to carry off the water satisfactorily. Also, that being placed between two high pitched roofs, there was every chance of water backing up under any portion of the roof, where the material might have become loose. This being caused by loose nailing or lack of adhesion in the cement, which might occur most anywhere. There should have been several layers of roofing at this point carried up to two or three feet on either side.

We do not think it would be wise to attempt to do much with the roof, while it is in this shape.

We are going to advise you of a way, which, costing a little more, may solve the problem. Build a little piece of roof slanting from the front of the lowest point between the two roofs, which will make kind of a ridge between them, and at the same pitch as the existing roof. Then from this ridge line build a long, flat section of roof, till it again reaches the lowest point between the two roofs. This gives a sharp pitch to the roof between the two gables, in front and long flat part running between towards the rear. Cover this again with roofing, carefully applied, making a long lap to the existing roof.



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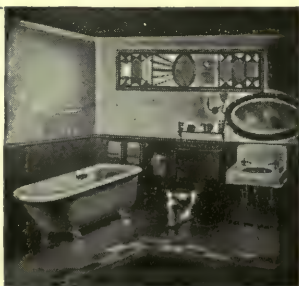
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THOSE who have to do with plumbing work have noticed that, under certain atmospheric conditions, the cold water pipes "sweat," and if provision is not made to prevent the sweating, damage, or at least nuisance, is liable to be caused to the walls and ceilings of a building. They have noticed that it is always the cold water pipes that sweat, in striking contrast to the perspiration of animals which is induced only when they are warm. They observe further that that not only cold water pipes, but tanks, vats, jugs, and vessels of all kinds, when filled with cold water exhibit the same characteristic, and the question is often asked "what causes the collection of moisture on the outside of water pipes and tanks that contain cold water, and how can it be avoided?"

The answers to the questions are quite simple. Air, at different temperatures, has a different capacity for moisture, although at any temperature, air can be made comparatively dry. The comparative moisture and dryness of air is perceptible to the senses just before and immediately after a thunder storm. The oppressive feeling and sticky sensation experienced before the storm is attributed to the humidity or moisture in the air, which at that time is saturated or in such a condition that an addition of moisture or a drop in temperature will cause the moisture to be precipitated in the form of rain drops. The moisture having been precipitated, the air becomes dry to such an extent that the humidity is below the normal and the air greedily absorbs moisture from whatever source it can be drawn. This absorption of moisture or evaporation takes place so fast that it lowers the temperature of air and person, and produces that delightful feeling of freshness so noticeable after a shower.

Before precipitation of moisture can take place, the air must reach the point

of saturation; but the point of saturation varies with the temperature. That is why there are cold rains in fall and winter and warm rains in spring and summer. Another example might be cited in the case of dew. During the daytime when the sun is shining the air becomes charged with moisture but not to the point of saturation. After sundown the air becomes cooler, its capacity to absorb moisture becomes diminished and part of the moisture it contains, that which is in excess of its capacity at the lowered temperature, is precipitated in the form of dew.

The same agencies that operate to cause a storm or precipitate dew are what cause the sweat on water pipes and tanks. Air that is charged with moisture, if brought in contact with a surface which is much colder than itself, will immediately become chilled and have its point of saturation lowered. Immediately that happens, the moisture it carried becomes condensed and adheres to the cold surface with which it is in contact. It follows, from the foregoing statement, that the warmer and more humid the weather, the more a pipe will sweat, and such is the case. Under ordinary conditions, pipes are never known to sweat in winter and even in summer during dry weather, the pipes remain dry. Circulation of air has much to do with the amount of moisture condensed on a pipe. If the room or compartment in which the pipe is located be closed, so that only the air in the room can come in contact with the pipe, only the small quantity of moisture contained in the air in the room can condense on the metal. During warm, humid weather, however, when every one is gasping for breath, windows and doors are thrown open for the circulation of air; consequently the amount of moisture precipitated during humid weather is at the maximum. Indeed, by observ-

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"The dwelling a man builds, reveals his personality, and through its halls and porticos runs the story of his life."

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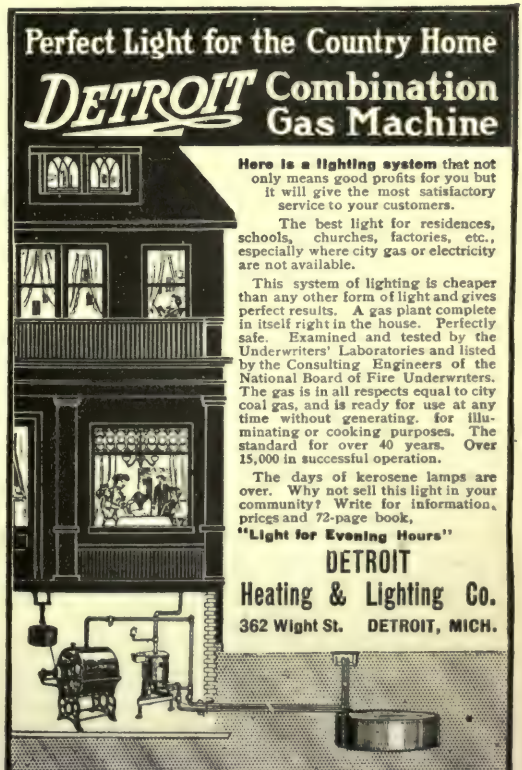
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Heating and Plumbing—Continued

ing the condition of cool basements or cellars during humid weather, when all the windows and doors leading therein are open, it will be found that a miniature rain storm is taking place and that not only the pipes but even the floor and the walls have become damp from the condensed moisture of the atmosphere.

As the sweating of the pipes in summer is caused by the contact of air with the pipes, obviously the best way to prevent sweating is to prevent the air from coming in contact with the pipes. To do this the pipes should be covered with a good non-heat conducting substance, such as is used to prevent the loss of heat from steam pipes.

A New Departure in Closet Seats and Tanks.

All sorts of schemes have been tried by manufacturers of closet seats and tanks to make them hold together. The sections of some wooden seats have been fastened together with bolts; others have been held together by running a hoop around the outside, etc. No way has, however, been found of treating wood so that dampness, moisture and heat would not affect it. In spite of anything that can be done, it will shrink, swell, warp and crack. Then, of course, wood is porous, which is about as undesirable in closet seats, from a sanitary standpoint, as cracks and crevices.

About all of the objectionable features of wooden seats and tanks seem to have been overcome in such an easy way in the line recently placed on the market by the H. W. Johns-Manville Co., New York, called "Sanitor," that it is strange no one has thought of this before. These seats and tanks are moulded in one piece from indurated fibre. This material is familiar to most of us in connection with fibre pails, wash tubs, water cooler tanks, etc., many of which have given satisfactory service for 30 years or more.

This material is non-porous and cannot absorb water; therefore no lining is required in tanks made of it, which does away with the danger of corrosion.

It is claimed that this material will not swell, shrink, warp, crack or sweat.

By a clever mechanical process, the exact grain of mahogany and oak is transferred to these seats and tanks. This is done so perfectly that few would be

able to distinguish them from wood. The manufacturers are sending a sample of this material and descriptive booklet to interested parties.

Modern Methods of Heating

With the opening of the fall season comes the time for preparation for the winter's cold, says Shoppell's Magazine. Builders of new homes must see to it that adequate heating facilities are included in the plans for their dwelling, and the owners of homes must examine their heating plants and see to it that they are in order to do properly the work for which they were designed. It is a mistaken idea, too commonly accepted, that a heating system, once installed, requires no further care or attention, but will continue to furnish adequate heat for the home at all times. Too many householders hold this notion and fail to have their heating plants inspected before the time for their use arrives, with the result that their families suffer, during the cold season, from a lack of adequate heating facilities.

Now is the time for the inspection of furnaces, steam heaters, water heaters, hot air heatings, and, in fact, every heating establishment. The radiator of the steam heating plant has been idle for nearly six months, and a hundred defects may have arisen in the system, none of them, perhaps, really serious, but all of them combined capable of reducing the power of the plant to do its work properly. The radiator should be inspected closely, all dirt which may have found its way into the pipes removed, and the entire system placed in a condition to allow it to distribute its heat in the most economical and effective manner. If the housekeeper takes proper care of the radiator during the season that it is not used, it is probable that few, if any, defects will be found. But the average housekeeper does not do this. With the taking away of the necessity for turning on and off the steam, comes absolute negligence of the radiator, and the result is that it is very likely to become unfitted for its work. Under these circumstances, nothing but careful inspection, and the remedy of defects discovered, can assure the home of proper heat during the cold season which is approaching.

Heating and Plumbing—Continued

There are many heating systems used in the home of today, leaving out the stove, which are primitive in this twentieth century and only applicable to a small class of modern buildings. There is the hot-air, or furnace, system; the combination system, hot air combined with either steam or hot water radiation; steam heating either by direct or indirect radiation; hot water heating, either pressure or exhaust fans used to circulate the heated air; and electrical heating; but this last is seldom used on account of its great expense. In addition to these systems, there are a large number of modifications, such as vacuum heating, mercury seal, etc. All these systems are liable to get out of order during the time that they are not in active use, and all should be inspected with great care, and defects remedied before they are placed in commission again. The modern methods of heating are wonderful improvements over the old-time stove, but to get the best service from them, they must be closely watched, and not allowed to get out of order.

The wise householder will not defer the inspection until the last moment, when the great rush comes on the craftsmen who make the repairs or alterations. He will attend to this duty at once, and have his heating system placed in complete working order. By doing this now he will not only save expense, because when the craftsmen are not over-busy they work better and more cheaply, but he will make certain his supply of heat for the winter by acting at a time when it is possible to secure the services of repairers without trouble or annoyance. Look to your heating appliances at once, and prepare your home for the winter at the most favorable time.

Closet for Covers and Cutlery.

A kitchen convenience which must be used to be fully appreciated, is a shallow closet closed in by sliding doors, with two or more narrow grooved shelves for pot lids, on the eye line with hooks below for the kitchen cutlery. It can be built in on one side of the kitchen fireplace, or occupy any convenient recess.

Health in a Country Home is Impaired by Lack of Sewage Facilities

If you have inadequate facilities for the disposal of sewage on your place; if you tolerate cesspools or open drains, you are giving disease a standing invitation. Don't wait for the outbreak of sickness to spur you to measures of

Safe Sanitation

Investigate this subject *now*. Complete literature telling how sewage can be disposed of perfectly without sewers, free on application. Inadequate or insanitary conveniences promote neither health nor self-respect. Booklet free on request.

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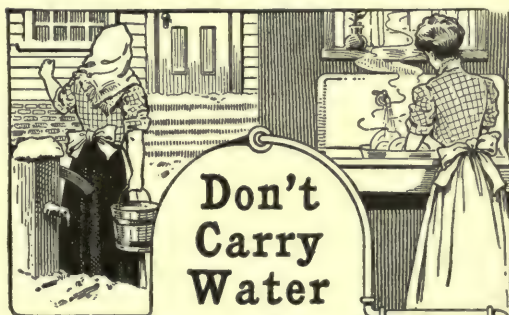
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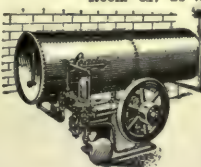
You need never carry another pail of water or even go out of the house on stormy days. Put running water in your home—in the kitchen—bathroom—toilet—and have an adequate supply in the barn for watering stock—washing carriages, harness—for the lawn—garden—for protection against fire—besides. A

Leader Water System

makes this possible. It eliminates the unsightly elevated water tank that freezes in Winter—or dries out in Summer. The compressed air in a **Leader** Steel tank does **all** the work. In your cellar or buried in the ground it **cannot freeze**, and it solves the water problem forever. A complete system costs \$48.00 upwards and you can install it yourself, if you like.

Booklet and Catalogue Free—Sign and mail the coupon below, and the booklet "How I Solved the Water Supply Problem" and complete catalogue will be sent you by return mail.

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SPLINTERS AND SHAVINGS

Glass Bricks for Houses

GERMANY uses glass bricks for building purposes with measured success. In Berlin is constructed a small villa, the walls of which are built of glass bricks, of several shades of dark green and blue. The glass bricks are especially adapted to construction where light, cleanliness and neatness are particularly in demand, says the Chicago Tribune. In Hamburg they are utilized in place of windows. They admit light in walls, which police regulations require to be fireproof and windowless.

In addition to admitting light to dark hallways, rooms, etc., they are said to possess the same strength as ordinary clay bricks. They are also utilized in walls and yards and partitions in the interior of houses, salesrooms, offices, workshops, etc., as well as for the construction of verandas, hothouses, kiosks, bath-rooms, hospitals, ice factories, butcher shops, railway stations, breweries, stables, and in other places where cleanliness, light and uniform temperature are specially desired.

The brick are also made with wire coating for fireproof walls. In some of the recently erected buildings in Milan, Italy, bricks made of glass have been adopted for ground and upper floors on account of the light obtained. They are also coming into use for partition work in some of the hospitals on account of hygienic principles.

In one of the leading banking institutions in the city of Turin the lobby office floor, which is about 36 by 58 feet, is entirely paved with glass bricks laid in iron frames for the purpose of admitting light into the basement, where are located numerous private boxes or vaults. In the Netherlands hollow green transparent glass bricks are used principally for light giving purposes in machine shops and conservatories.

American Exposition, Berlin, 1910

That America is to have a comprehensive and representative Exposition in Berlin in 1910 is assured. Manufacturers and business men throughout the country are displaying a lively interest in the undertaking and applications for space have been received by the American committee from many states. The indications are that every branch of American progress will be shown at the Exposition. "There will be no customs duty and exhibits will be entitled to a material ocean freight reduction both ways."

It is but natural that the United States should seek to hold an All-American Exposition in Europe; for our export trade in that direction has reached splendid proportions and it is constantly increasing.

There has just been issued by the American Committee, whose office is at No. 50 Church street, New York, an attractively arranged prospectus of the Exposition, which outlines the objects and advantages of the enterprise.

As this will be the first All-American Exposition ever held in a foreign country, it will be of interest to all Europe as well as to America.

June, July and August, three of the best months of the year, have been selected in which to hold the Exposition.

Belfast Machine Embroidery

That the exquisite hand embroidery of the Irish peasants can be very closely duplicated by machinery is being demonstrated by Belfast manufacturers, Consul Samuel S. Knabenshue says:

Belfast is noted as one of the great centers for hand embroidery, especially of linen goods. The plan pursued is to send the goods, after being stamped with the patterns, to small shopkeepers in the villages throughout the country, who act as agents, placing the work among the women of the cottages over the countryside. When the embroidery is completed, the agent pays the workers and returns the goods to the Belfast manufacturer,

Splinters and Shavings—Continued

who is obliged to launder them thoroughly to remove the dirt and the smell of peat smoke. The great drawback to this system has always been that the manufacturer is not able to fill orders promptly, as he can never count on prompt work by the women and girls. At seasons when farm work offers they drop the embroidery, because they can make more money by working in the fields.

These unsatisfactory conditions are now being revolutionized. Existing embroidery machines were at first rebuilt, with attachments devised by the improvers, increasing their adaptability. Later the manufacturers began building entirely new machines. There are now five firms in Belfast building embroidery machines, each having its own peculiar devices.

Several hundred machines of these various makes are at work in Belfast establishments. They enable embroidered goods to be produced much cheaper than by hand; the quality of the work is excellent; and for the first time in the history of the trade the manufacturers of

such goods are able to contract for delivery of finished goods at a given date with absolute certainty. The cheapening in the cost of production has in turn lead to an increase in demand on the part of the public.

The machines are all on the general principle of the sewing machine, with this addition: The needle bar has not only a vertical motion, as in the ordinary sewing machine, but also (while the needle is above the cloth) a horizontal motion, at right angles to the line of feed. This second motion is controlled by a lever operated by the right knee of the person using the machine, who thus has both hands left free to guide the work, which is stretched on a hoop, as in hand embroidery. When the knee lever is untouched, the machine makes a plain row of stitching, such as that representing a leaf stem, for example; and by the degree of movement given the knee lever the width of the embroidery is regulated up to the full "throw" of the machine. The widest "throw" provided for so far is three-quarters of an inch,

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COMPLIMENTARY PORTFOLIO OF COLOR PLATES

NOTABLE EXAMPLES OF

INEXPENSIVE DECORATION AND FURNISHING

"THE HOUSE BEAUTIFUL" is an illustrated monthly magazine, which gives you the world's best authority on every feature of making the home beautiful.

It is invaluable for either mansion or cottage. It shows you wherein taste goes farther than money. Its teachings have saved costly furnishings from being vulgar; and on the other hand, thousands of inexpensive houses are exquisite examples of superb taste from its advice. It presents its information interestingly and in a very plain, practical way. Everything is illustrated.

"THE HOUSE BEAUTIFUL" is a magazine which no woman interested in the beauty of her home can afford to be without. It is full of suggestions for house building, house decorating and furnishing, and is equally valuable for people of large or small income.

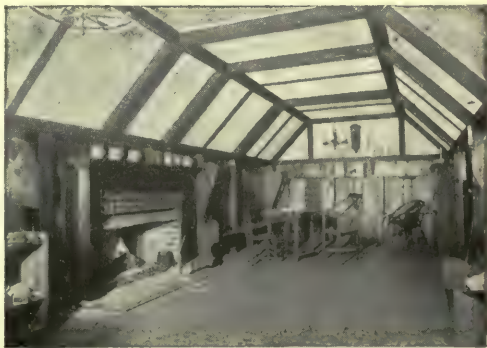
ELLEN M. HENROTIN,

Ex. Pres. Nat. Federation of Women's Clubs.

Its readers all say it is a work remarkably worthy, thorough and useful. The magazine costs \$3.00 a year.

But to have you test its value for \$1.00, we will send you the current number and "THE HOUSE BEAUTIFUL" Portfolio gratis, on receipt of the Five Months' Trial Subscription coupon. The Portfolio is a collection of color plates and others of rooms in which good taste rather than lavish outlay has produced charming effects. The Portfolio alone is a prize which money cannot ordinarily purchase. Enclose \$1.00 with the coupon filled out and send to

HERBERT S. STONE, Publisher of THE HOUSE BEAUTIFUL



A "House Beautiful" illustration greatly reduced

THE HOUSE BEAUTIFUL, 261 Michigan Ave., Chicago

You may send me your Portfolio of Notable Examples of Inexpensive Home Decoration and Furnishing, and a copy of the current issue of "THE HOUSE BEAUTIFUL." I enclose herewith \$1.00 for a special rate five-month trial subscription to the "THE HOUSE BEAUTIFUL."

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TOWN OR CITY

STATE

Splinters and Shavings—Continued

though so great a width is infrequent in the patterns now most in favor. The prices of the different makes of machines range from \$68 to \$85 per machine. They are power driven, and are operated at the rate of 1,200 to 1,400 stitches a minute. The operators are girls, who easily learn the manipulations and become very much interested in the work. (A list of manufacturers of these embroidery machines is on file in the Bureau of Manufactures, and samples of the work, transmitted by Consul Knabenshue, will be loaned to textile firms upon application to the Bureau.)

Rebuilding the Campanile at Venice

The construction of the new Campanile at Venice is proceeding apace, and 1911 should see its completion. It has been fortunate in being relieved of all pecuniary embarrassments—a fate which our tottering cathedrals have not avoided—and the originally estimated \$360,000 and the later calculation of \$400,000 have already been supplied, together with a comfortable surplus for emergencies. The new Campanile will resemble the old in appearance, though iron clamps and girders will in reality make it entirely safe. The only proposed alteration is the removal of a pillar which stood in the center of the tower, in favor of a passenger lift. For the most part, too, old associations are being preserved, the stone being quarried in Istria, the cement coming from Montferrat, the sand from Brenta—places all famous in Venetian history. Magnificent work is being done, an excellent example of reconstructive skill being the piecing together of the Madonna of Sansovino, which was found smashed into nearly two thousand fragments. So, owing to the generosity of the art patrons of Europe in general and the Pope in particular, the Campanile will soon reassert its domination.

New Mixture for Prevention of Dust

In England some county authorities are trying a new process of preventing dust on roads, which, it is claimed, will last three years, and the county engineer states that he knows of cases nearly of that age and still good. There is no tar or oil in the composition, and it can be laid for four cents per square yard. It can

be applied in any weather and never gets slippery. It is also claimed that after a year's time the use of tar injures the road and causes the surface to deteriorate.

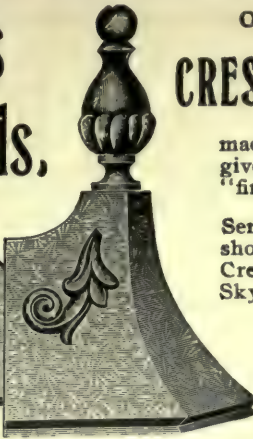
We notice from our exchanges that new compositions are constantly being tried, and up to date not one seems to be wholly satisfactory. As in the clipping quoted above, tar is complained of as injuring the road. Others, again, contain substances that when used, the washing of the roads into water courses is very injurious to trees and vegetation. And it may be said that in all cases it is a costly process. However, we may live in hopes that sometime we may discover a method that will answer the purpose, and not bankrupt the neighborhoods where used. Very probably it will come by improving our road building.

French Houses Are Artistic

The influence of the French on the architecture of the present day is exerted through their school of architecture, L'Ecole des Beaux Arts, the leading school for architecture in the world. Owing to the true artistic democracy and liberality of the French, this government school has been open to students of all countries, and its influence is world-wide. We in America must also pay tribute to this great school, as its influence was a timely aid to us in shaping, through the American students, our architectural destiny when we were sorely in need of it, says William Neil Smith in the *Delineator* recently. We owe it mostly to the French that we are at the present, for the first time, ranking favorably with, if not surpassing, our older mother countries in Europe.

A house that is typical of the French movement is stucco washed a pure white. The roof of the tower is covered with light green glazed tile. The small brackets directly beneath the roof are painted a vermilion red. The large brackets are painted white, to harmonize with the rest of the building. The sash of the windows are painted white, but the frames are green. The ornamental balconies which project from the face of the tower and the building proper are constructed of saw balusters and wood strips in pattern, and are painted green,

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ROOM

Splinters and Shavings—Continued

the same shade as the roof and the frames of the windows.

The harmonious awnings were evidently designed, as they should be, by the architect, to form an integral part of the building; and too much stress cannot be laid on the importance of carrying out this idea. In this instance they are white and green striped, the green exactly matching the green of the wood-work on the rest of the exterior.

The roof garden and sun parlor form a very interesting and practical feature, and one which is seldom incorporated in a small house in America. It not only adds a great deal to the living qualities of the house, but, as is shown in the illustration, has been made an addition to the beauty of the building as well. The tower forms the sun parlor, inclosed in glass for the winter, not in temporary sash, but with permanent glass inclosures, with sash which can be thrown open during the summer and which are part of the design.

Cost of Bricklaying by a Municipality

As a result of the very careful investigation of the Sewer Department of the city of Boston, Metcalf & Eddy, consulting civil engineers to the Boston Finance Commission, present in a recent report some very interesting facts regarding the cost of brick laying by municipal employees. Comparing the smaller sewers built by the Massachusetts Metropolitan commission with those built by the day labor force of the city of Boston, the engineers find the prices ranging from \$9.04 to \$18.34 per thousand on the day labor work, whereas on the Metropolitan work done by contract the highest price was \$4.23 and the lowest \$2.77.

Based on the number of brick laid, the difference between the day labor work of the city and the contract work of the Metropolitan board is as noticeable as is the difference in cost. These items are particularly interesting when it is

noted that upon the city work, taking the average for a whole week, the number of brick laid per mason per hour was as low as 13, and the largest number was 242, as against 94 and 570 respectively upon the Metropolitan work. The highest number per hour for the average of an entire job done by the Sewer Division was 78, whereas the lowest average upon Metropolitan work was 165 and the highest 384.

The engineers show that to considerable extent the excessive cost under city administration was due to the fact that sufficient work was not always presented to keep the masons busy, but taking material and labor costs into consideration it appears that the total cost for brick masonry in the sewers was \$30.75 per thousand brick and \$18.45 per cubic yard of brick work on the basis of 600 brick to the yard. It is shown that fair price to pay for Portland cement concrete of this class would not be in excess of \$8.00 per cubic yard. The engineers therefore recommend the substitution of concrete for brick work in sewer construction wherever possible.

Some Wood Statistics in the State of Washington

A 14-room house was recently built at Elma, Washington, from the lumber of a single yellow fir. There was nearly 38,000 ft. of lumber in the logs of the tree, and the stump inside the bark measured 9 ft. The total height of the tree was 300 ft., its lumber was worth \$1,000, and the trunk was straight and without a limb for 100 ft.

Statistics show, says Popular Mechanics, that there is enough timber standing in the state of Washington to build 5,000,000 six-room houses, sufficient to shelter one-third of the population of the United States. The timber would furnish ties for 1,893,939 miles of railway track, or suffice to construct a plank road 3 in. thick and 500 ft. wide that would extend around the world twice.



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A FEW carefully selected books will be reviewed on this page each month. A good book is a powerful influence in the creation of the home and we trust that Keith's will be an aid to our readers in the selection of a library.—Editor.

How to Use Concrete.

By Walter C. Boynton and R. Marshall.

This is a book of practical information upon the use of concrete and contains much that is useful, not heretofore published. Every phase of concrete work is fully entered into and described. The table of contents will convey a better idea of its value to those interested in concrete, than an extended notice, and is as follows:

Molding Monolithic Concrete Balustrades—How to Make a Seaworthy Concrete Boat—Bridge Work, Balustrades and Ornamentation,—Plaster Face-Plates for Monolithic Walls—How to Make a Plant Urn—Building a Concrete Block Furnace—Concrete Bath and Laundry Tubs—Molding Ornamental Flower Pots and Vases—Reinforced Concrete Benches for Greenhouses—Laying Wood Floors on Concrete Bases—Concrete Mantel and Fireplace—Silos, Stand Pipes and Water Towers—Concrete Tanks for Feed-Water Storage—Model Concrete Tile Plant—Cost of Concrete Culvert—Concrete Linings for Ditches—Cost of Concrete Drain Tile—How to Mold Concrete Benches—Concrete Arbor Seat of Simple Design—Making Hexagonal Sidewalk Block in Concrete—Concrete Pavement in Fond du Lac, Wisconsin—Concrete Pavements Under Patents—Material Required for Concrete Sidewalks—Cost Figures on Concrete Sidewalks—Wire Conduits Made of Concrete—Concrete Gutter Covers at Cross Walks—Associations of Cement Users—Concrete Bridges of Simple Design—Concrete Theatres, Banks and Schools—How to Make Concrete Monuments—Glue and Waste Molds for Concrete Work—Mold-

ing Ornamental Concrete Work—Concrete Block Cost Data—Stucco, What is it and How Applied—Strength of Concrete Brick—Manufacture of Concrete Fence Posts—N. A. C. U. Sidewalk Specifications—Miscellaneous Information.

Concrete Publishing Co., Detroit, Mich.
Price in cloth, \$1.00.

The Kingdom of Slender Swords.

By Hallie Erminie Rives.

Springtime in Japan forms a beautiful setting for this charming love story by the Author of "Satan Sanderson." Barbara Fairfax visiting the daughter of the American Ambassador at Tokio, is an orphan whose parents married in Japan, her mother returning after her husband's death to the United States where Barbara was born. Her lover is to meet her in Japan expecting to win her consent. The secretary of the legation, a younger man, who has become famous for his achievements is aviation, saves her from a vicious dog at the risk of his life. The situation develops rapidly and they become very much in love with each other. Apparently he is false to her and she becomes engaged to the first man, Austin Ware. Philip Ware, his dissipated younger brother, in the course of the misunderstanding, and his association with a government expert on explosives, a foreigner, threatens the honor of Japan. The wonderful display of loyalty and self sacrifice upon the part of a young Japanese girl to obtain the secret of the conspirators for her country is a touching and dramatic incident of the book. Their plans are frustrated by the aviator in the face of a host of difficulties and his final vindication in Barbara's eyes leads her to accept him. Japan appears in a most favorable light, the book is very cleverly written and shows careful preparation upon the part of the author.

The Bobbs-Merrill Company, Indianapolis, Ind. Price, \$1.50.

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ON HOME BUILDING

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Contents for May

	Page
EDITORIAL	338
THE STAIRWAY AND ITS AUXILIARY FEATURES	341
LEADED GLASS FOR DOMESTIC USE	346
A STATELY SPOKANE HOME	351
TWO UNIQUE STRUCTURES	356
NOTES ON GARDENING	358
CONCRETE TILING	261
DESIGNS FOR THE HOME-BUILDER	363

DEPARTMENTS

DECORATION AND FURNISHING	376
ANSWERS TO QUESTIONS ON INTERIOR DECORATION	380
HOUSEHOLD ECONOMICS	384
TABLE CHAT	388
CEMENT	392
PAINTING AND FINISHING	396
HEATING AND PLUMBING	400
SPLINTERS AND SHAVINGS	404
BOOK NOTICES	408

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VARI-COLORED MOONLIGHT ON THE STAIRWAY—A STUDY IN SILHOUETTE.

KEITH'S MAGAZINE

Vol. XXIII

MAY, 1910

No. 5

The Stairway and Its Auxiliary Features

By Charles Alma Byers

(*Photographs by the Author*)



STAIRWAY AND RECEPTION HALL IN FLEMISH OAK, GIVING AN EFFECT OF WARMTH AND HARMONY.

PROBABLY no other single interior feature of the house of two stories, or more, deserves greater attention from the architect and decorator than does the stairway. Located, as it usually is, where it commands the first, or almost the first, attention of the visitor crossing the threshold, it should be made one of the

structural masterpieces of the home. Whether it lead from the reception hall of the mansion or near-mansion, or from the living room of less pretentious home, it is, in a sense, the hub of that home—the point from which extend the house's various ramifications, or passageways. In almost every home its setting, in fact, forms the common household center, or

meeting place, and because of its consequent prominence, it, together with the setting, demands artistic consideration.

The well designed stairway makes possible the introduction of many pretty and comfort-giving features, and the arrangement of these also should be carefully studied. Cozy corners with built-in seats are always a popular auxiliary of the stairway, and they invariably lend charm to the home. Settings for pedestals and tabourets, bearing statuary and ferns or flowers, are also provided, while the stairway wall may be given touches of coloring by the display of pictures or the introduction of art glass windows. There is no better place, in fact, for the use of art glass in the home than for the stairway windows.

The first photograph here presented gives a very artistic view of a stairway lighted by a large art glass window. The effect is that of moonlight pouring through the window onto the first stairway landing, lighting up a large oil painting and throwing a giant fern and the

railing into silhouette. A Venus de Milo stands on a pedestal in a dark recess of the stairway arrangement, and is lighted by a glare of light from the reception hall fireplace.

The second illustration gives a detailed view of the same stairway, this view showing the reception hall as it appears in daylight. The room is shown as the visitor sees it when crossing the threshold. The stairway is of comparatively simple design, and at the same time it helps very materially in giving the room a tone of elegance and warmth. There are five steps leading to the first landing, onto which the art glass window pours its vari-colored light, and then the stairway turns at right angles. The room is finished exclusively in dark colors, the woodwork being of Flemish oak, while the walls are covered with paper of plain, unusual design, done in dull greens and blues. The rugs, as well as the stairway carpet, are of Oriental pattern and coloring. The effect is one of harmony and coziness throughout.



A WELL DESIGNED STAIRWAY WITH COZY CORNER, BUILT-IN SEATS, ETC.



A STAIRWAY THAT PROVIDES BUILT-IN WINDOW SEATS, FINISHED IN GOLDEN OAK.



AN ATTRACTIVE STAIRWAY IN AN INEXPENSIVE HOME.



A MODERNIZED COLONIAL STAIRWAY SHOWING ELEVATED ALCOVE WITH GRANDFATHER'S CLOCK, ETC.

The third photograph shows a stairway that affords an excellent cozy corner, which occupies the space intervening between the stairway and the dining room and under the upper turn of the stairway. The corner is provided with a built-in seat, and is made partially secluded by the use of Oriental drapes. The floor of this cozy corner is raised one step above the floor reception hall, and the entrance to the stairway, formed by two pillars, one of which is capped with a piece of bronze statuary, leads from this elevation. The entrance arrangement also provides for a second built-in seat, which becomes an asset of the reception hall proper. The hall, from which the stairway leads, connects the living room with the "den," portiers forming the only partitions. The woodwork of the stairway, the reception hall and the rooms is of weathered oak.

The fourth photograph shows a recep-

tion hall and stairway finished in golden oak, with the plastered portions of the walls tinted buff. The stairway arrangement is simple but effective. The lower and principal flight leads to a landing which is lighted by three large windows of leaded art glass, at which point the course of the stairway reverses and continues to the second floor. The space under the landing and the second section of the flight is utilized as a cozy corner, which is provided with a built-in window seat. The corner is lighted by three windows similar to the ones which are seen at the midway landing of the stairway.

The fifth illustration shows a plain but artistically designed stairway in an inexpensive home. The stairway leads from the living room, and at an elevation of six steps it turns at right angles, providing a space beneath that is utilized for a closet. The woodwork of the room,

as well as the stairway, consists of California redwood, simply oiled.

The sixth illustration shows an immense reception hall with stairway designed to represent a modernized colonial style of architecture. The stairway arrangement is particularly interesting, and introduces an unusual feature. The first six steps lead to a sort of alcove, which is provided with chairs and a grandfather clock, and is lighted by a large plate glass window. The course of the stairway reverses at this point and continues to the second floor. The reception hall serves as an unpartitioned connection between the drawing room, the library and the dining room. The woodwork is enameled white and the plastered portions of the walls and ceiling are tinted a deep buff.

The seventh photograph illustrates a simple effective stairway arrangement in an inexpensive home. The stairway is

constructed in three sections or flights, and at the second landing are four art glass windows. A modern grandfather's clock is also a feature of this landing. The woodwork of the stairway, as well as that of the hallway, is of Flemish oak, while the rugs and carpets are of Oriental pattern and coloring. The simplicity of the arrangement is responsible for its charm.

Stairway designing, as will be realized from a careful study of the subject, and the accompanying illustrations, is very much of an art. The general interior appearance of a house of two stories depends very largely upon the stairway and reception hall arrangement, and no home can possess an inviting atmosphere if the arrangement is slighted. The stairway and its setting offer many possibilities, and the prospective home-builder can well afford to give the subject more than passing thought.



A SIMPLE, EFFECTIVE, STAIRWAY ARRANGED FOR AN INEXPENSIVE HOME.

Leaded Glass for Domestic Use

By J. A. Knowles

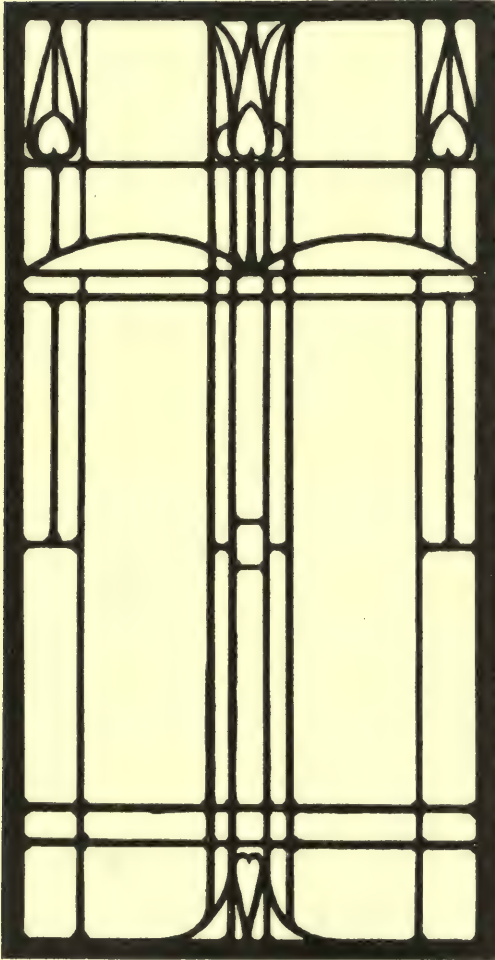


FIG. I. *Courtesy Norman Reed & Co., Eng.*

WHEN the momentous questions of plan, elevations, and materials have all been successively attacked and settled; and the house is well on the way towards completion, the next items which engage the attention of the home-builder are the decorations, furnishings, and interior fittings of the future home; and in no other

part of the work will more caution be necessary, nor careful thought reap a richer reward than in avoiding the many pitfalls which lie open for the unwary.

After all it is the inside of the house in which we live, it is there the family life centers and there the greater part of the occupants' time is spent, so no elegance of exterior architecture can compensate for an unsatisfactory interior plan, nor is this in any way laudable if it is attained at the expense of interior harmony.

Having thus demonstrated the law of unity, exterior and interior, and taking it for granted that we have already attained the first by placing ourselves in the hands of a competent architect, and co-operating with him as much as possible; let us not do anything as the work draws near completion to introduce a false note in decorations or furnishings, which would tend to mar what would otherwise be, in every way, commendable. Under this head of decoration comes the design of various windows and their fitness for the different openings, rooms, lightings, and all other conditions, which have to be taken into consideration to produce complete harmony.

It is, of course, impossible in the scope of a short article, such as this, to lay down definite rules which could govern the design of windows for domestic use for all styles of houses and every period of architecture. All that is possible is to draw the attention of the inquiring home-builder to a few general principles and leave these to his consideration with the recommendation that he take the advice and assistance of his architect, as

being one best acquainted with the special conditions and requirements of his individual case.

A special point to be considered in our scheme of leaded glass windows is the varied requirements they are to fulfil in the several rooms with regard to the different amount of illumination required. For instance, suppose we have a hall with somewhat limited window space, it would be obviously unwise to have, say a treatment in dark opal glass, which would tend to make the hall, which is the first room we see, as we enter, and which should give us a suggestion of the rest of the home, and the character of its inmates, dark and gloomy. On the other hand in the drawing room, where we generally concentrate our best efforts in decorations, the most handsome furniture and richest hangings, a cold icy light pouring in at the windows to dazzle and bewilder the eyes, would clearly be out of place; rather, here should we use our softest tones and richest harmonies, bearing always in mind the general effect of the whole interior; the color of the carpets, the tinting of the walls, the character of the upholstering—even to the binding of the books on the bookshelves, and the embroidery on the sofa cushions to produce complete restfulness and harmony.

The dining room, too, it seems to me, should be treated in a light manner, so as to give airiness to the general effect, for it is here we eat, sunrise and sunset, and oftentimes paterfamilias wishes to look up the latest movements of the stock market in his morning paper ere departing for the serious business of the day, without resorting to artificial light.

Most homes nowadays are not considered complete without a den, and if this nook for rest has a window, it would be very appropriate to have it made in some deep and rich glasses with some quaint device, such as for instance, goldfish



FIG. 2. *Courtesy Gascoyne & Sons, Nottingham, Eng.*

swimming in water, or a little landscape done in lead and glass alone as in figures 2 and 3. But these things can best be left to the individual taste of each home-builder, and if the above general principles be followed, it will not be possible for them to go far astray.

Of course, by far the greatest factor that should influence the design of the windows is the architecture of the house and the individual styles of interior fittings, when as is often the case, the home is not designed in the same style throughout the interior, the different rooms being treated according to distinct styles, as for instance the library in Gothic, the drawing room Colonial or Louis-Quinze, etc. Yet no matter what style has to be followed, it is a great mistake to make a window a special feature, as if the whole house had been designed and built around it to show it off, therefore making the interior of the room so dark that it is impossible to read or move about with any degree of comfort. Failure in this respect, especially in opal windows, often mars what would otherwise be a meritorious piece of work. After all a window is merely an incident in the general scheme, and not the end and aim of the whole purpose of the

building any more than any other part of the work. It is, therefore, the worst of bad taste to emphasize it unduly. Let simplicity be the keynote throughout, for nothing can be worse than over ornamentation, simple lines in the leadwork to bring out and emphasize the surrounding millions instead of a mass of meaningless scrolls, which have no connection whatever with the surroundings.

Such a window, intended for an upright light in a hall is illustrated in Fig. No. 1. There is no attempt at forcing the effect, the whole being simple and dignified, depending solely on the spacing and disposition of the upright lines. This would best be carried out in double strength, American (or thin plate glass) with perhaps small pieces of antique or iridescent to give a touch of color to the general scheme.

This brings us to the question of the several kinds of glasses of which a win-



FIG. 3. *Courtesy Gascoyne & Sons, Nottingham, Eng.*

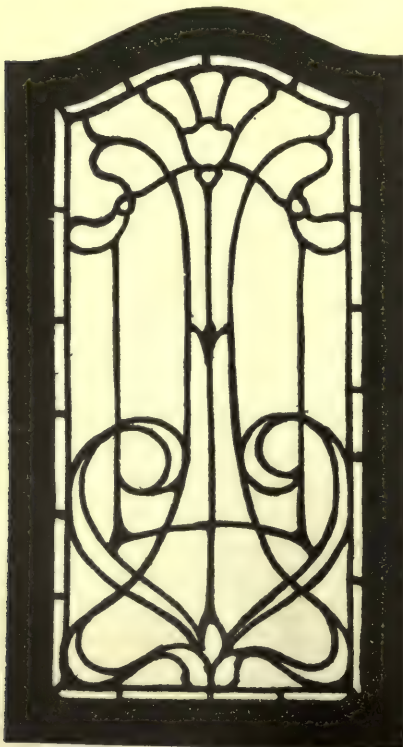


FIG. 5. *Courtesy of The "Diamant"*

dow can be made, which are in themselves so many and varied in character that it would be possible to write an article on this alone. It will be, perhaps, sufficient for our purpose to describe a few that more generally are used in domestic work. These comprise sheet, single and double strength (which is the regular window glass), antique, opalescent, muffled, iridescent and cathedral. This last, in spite of its high sounding name is almost the cheapest kind of colored glass, and as the colors in this are of very crude tints, it would be well to dismiss it entirely from consideration, with the exception, perhaps, of one or two of the paler tints, such as ambers and olives.

Antique is a glass made by hand in small sheets, full of bubbles, and varying in thickness. It is extremely useful



FIG. 4.

[Courtesy of The "Diamant"

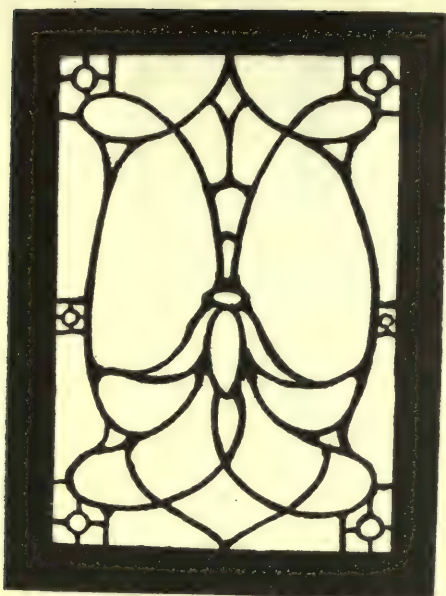


FIG. 6. *Courtesy of The "Diamant"*

for quarry work, and wherever a quaint and old world feeling is needed.

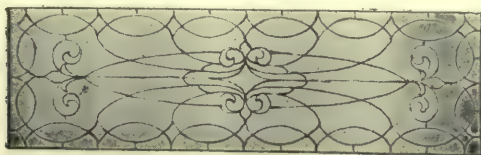
Opalescent, as its name implies, is of a cloudy or milky appearance similar to the precious stone of the same name, and is nearly always made of two or more colors, which harmonize with one another, mixed together, so as to produce a streaky effect. When used with taste, it is extremely useful, but no glass is capable of such meretricious effects in the hands of an unskilful artist as this.

Muffled is a transparent glass, made in all colors, but with a wavy surface similar to ripples in water, and irides-

cent has on its surface a beautiful blue and green shimmer, which only appears when the light falls upon the glass, but is invisible when the light comes through. It is, therefore, mostly used in such things as bookcase door lights when the light falls on the window and little or none comes through.

There are many other forms of glass, which lend themselves to produce the most happy results in the hands of an experienced artist, such as roundels, which were originally the broken off bottoms of wine glasses, which some genius with an eye to their decorative effect appropriated for use in a window with most successful results, and are now made especially for the purpose of window making; and mother of pearl, which though of course not glass at all, is yet a new power of gaining effects by its delicate use in small pieces in a manner similar to the iridescent.

Figure No. 4 shows a decorative treatment of a landscape to be carried out in opal glasses to obtain a fairly rich color effect, and would be most suitable for a staircase window, where it was possible to view it at a proper distance such as from a hallway or landing above. Figures Nos. 5 and 6 show two small lights illustrating how leaded work can be made beautiful without being necessarily complicated or expensive.



A Stately Spokane Home

Built in the Georgian Colonial Style

(Photographs by the Architects, Keith & Whitehouse)



RESIDENCE OF MR. DANIEL MORGAN, SPOKANE, WASH.

THE growth of our American cities is a constant surprise not only to foreigners but to our own people. Each season sees large areas improved by fine homes where the cornfield and pasture were but yesterday. Our country is so vast that it is hard for the resident of one section to realize that all the progress is not in his immediate vicinity. The West has so long been associated in our minds,

as being a vast territory, crude and yet in the swaddling clothes of civilization, that it is something of a shock to find splendid cities where villages were expected and stately colonial residences on what may once have been the site of miner's cabins.

The last twenty years has seen vast changes over the entire country, and few cities have forged ahead as has Spokane, in material progress. A visible and



THE CARRIAGE ENTRANCE.

substantial sign of the times is in the many homes both large and small, that have been built in the very recent years. Among them is the beautiful home of Daniel Morgan in the Manito Park district.

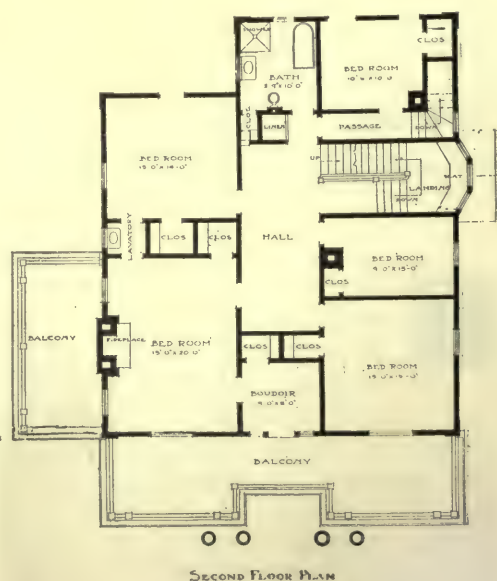
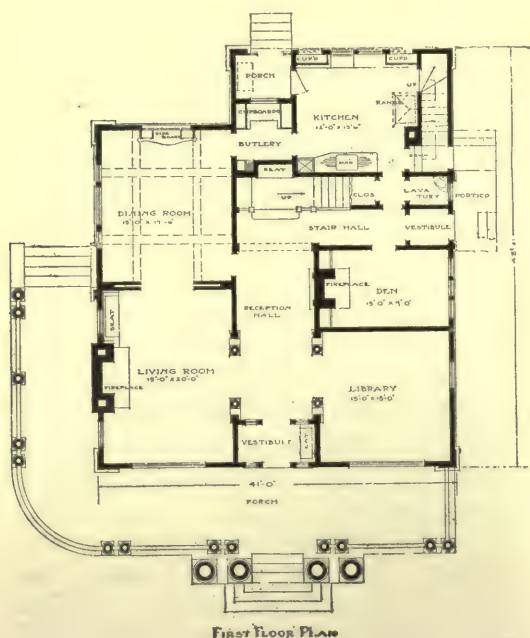
Architecturally the house closely fol-

lows the Georgian Colonial type. On the front elevation is a large portico supported by four massive Doric columns. Across the full length of the front and east elevations, runs a wide porch with a balcony supported by small Doric columns.

On the west is a carriage entrance protected by a portico. The exterior finish is of four-inch cedar siding laid $2\frac{1}{2}$ inches to the weather. The shingled roof stained black, and the two exposed chimneys are of pressed cream colored brick laid in red mortar.

Entrance is made through a vestibule with a floor of mosaic tile, at one end of which is a built-in seat of mahogany.

The vestibule opens into a large reception hall, 28 feet in length. This is finished in Honduras mahogany and has quarter-sawed oak floors. On the right a columned opening leads to the library and on the left a similar opening connects with the living room, thus giving the house dignity and spaciousness. These columns are fluted mahogany with Ionic caps. Against the wall are pilasters with composition caps.



On the right wall of the hall is a large cheval glass. At the far end is the stairway, which is divided from the main hall by an elliptical arch. Two steps up is the first landing of the stairs, and back of this is a recess with a seat. Above the seat is a wood panel and above this is a plaster shell in gold leaf tints. The balustrade of the stairs is white enamel with mahogany rail. There is a second landing in view.

The living room is finished in mahogany and has a cornice at the ceiling. The walls are treated with green silk armures, and the ceiling is hand-decorated plaster. The floors are quarter-sawed white oak.

A large fireplace and hearth are faced with green faience tile. The mantelpiece is in heavy effect, the Colonial effect being carried out in Ionic columns. On each side of the fireplace are large plate

glass windows, and on the right is a built-in seat concealing a wood lift connecting with the fuel room in the basement.

Double sliding doors divide the living room from the dining room. This room has a beamed ceiling and is also finished in mahogany. There is a paneled wainscot six feet high, the panels being done in blue leather. A plate rail crowns the wainscot, above which the wall is treated in tapestry.

At the far end of the room is a built-in buffet with a swelled front, leaded glass doors and plate glass mirror and glass shelves. On the east side of the room is a triple window. This room is reached from the living room and from the main hall.

The library walls are done in brown silk armures and the ceiling is hand decorated.

Back of the library is the den, reached



LOOKING INTO LIVING ROOM FROM RECEPTION HALL.

by a side hall off the stairs hall. This hall is reached from the outside through the carriage entrance.

Fir is used in the den finish, there being a paneled wainscot in brown leather. Above the wainscot is a frieze showing a forest and setting sun in appropriate tints. The fireplace is built of fancy pressed brick, the hearth being red pottery tile. On each side of the fireplace are wine cupboards. The room is lighted by casement windows. This room was designed to receive the Indian curios of which the owner has a large collection.

Between the dining room and kitchen is a butler's pantry, finished in white enamel and having tile floor and tile wainscot. The top of the work table is mahogany.

The kitchen also has a tile floor and tile wainscot 5 feet high. It is one of the modern kitchens in the city. One entire wall is taken up with cupboards,

drawers and shelves. The range is constructed to burn either gas or coal. A dumbwaiter connects with the storeroom in the basement, and the sink fixtures are white enamel all built in one piece. There is a radiator to be used as a plate warmer. The work table is covered with a marble slab and underneath it is a concealed fuel box. Above the tile wainscot the walls are done in "sanitas." The kitchen connects with a large back porch, which is latticed in. There is a back stairway from the kitchen to the second floor and to the basement.

The second floor arrangement consists of five bed-rooms and bath, all leading from one central hall. The entire floor is finished in white enamel 8 coat work, the last coat being rubbed down to an egg shell finish. All bed-room walls are papered. The owner's bed-room is treated in pale blue and white.

The facings of fireplace and hearth are



DEN FURNISHED WITH INDIAN CURIOS.

of white tile with pale blue border. The room has a large closet and a lavatory. It connects with a dressing room, which opens upon the front balcony through a French door. The boudoir also has a closet.

All the other chambers have large closets, and there is a large linen closet with shelves and drawers at the bathroom entrance.

The bathroom has a tile floor and tile wainscot and hard plaster walls. Everything in the room is white, including all the fixtures. There is a large Roman tub and a pedestal basin.

A shower bath is built in connection and enclosed with marble slabs. There is a closet and a clothes chute to the laundry.

In the attic is a large cedar closet for storage purposes.

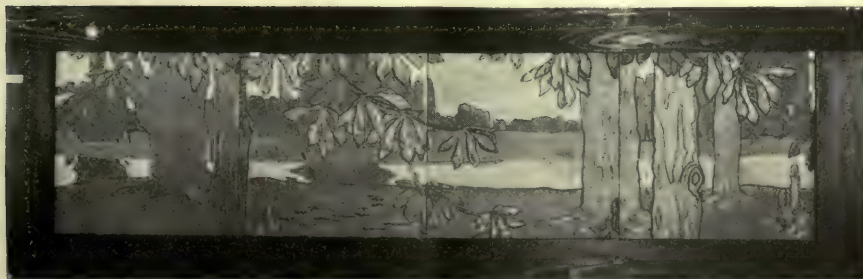
There is a full basement under the house with cement floors. The basement is divided into the laundry, fruit cellar, storage room and fuel room and toilet. It is equipped with a hot water heating plant. All walls of the basement are plastered.

The house has a vacuum cleaning system and also a ventilation system



MANTEL IN OWNER'S BEDROOM.

throughout that operates on the gravity principle. Another unusual convenience is an electrically-operated washing machine in the laundry. In addition to the hot water system the house is to have an instantaneous water heating apparatus connecting with all the water faucets.



Two Unique Structures

By Edith Everett



UNITARIAN CHURCH, BERKLEY, CALIF.

THE town of Berkeley, California, has two structures, which for novelty cannot be surpassed, even in the Old World. One is the Unitarian church, the other is the famous Greek theatre.

The picture gives a fair idea of the unique little church. Nothing could be more different, from the traditional conception of what a church should be; yet after all it is one of the prettiest, most picturesque buildings that can be found anywhere.

It is a low, roomy shingle structure. Built low, it is said, because the man who lives next door, and who sold the lot,

specified that his view of the bay should not be shut off. Vines and rose bushes climb over the church, and it is on one side almost concealed by trees. The chimney is entirely hidden by thick vines. Geraniums border the path, and grow close about the church itself. Located at the intersection of two streets, it has two entrances. The two low porches at each entrance are large and exceedingly attractive. The support of each porch is a tree trunk standing just as cut, the rough bark fitting in admirably with the dark shingle building and huge wooden rafters. The windows are covered with awnings, to keep out the

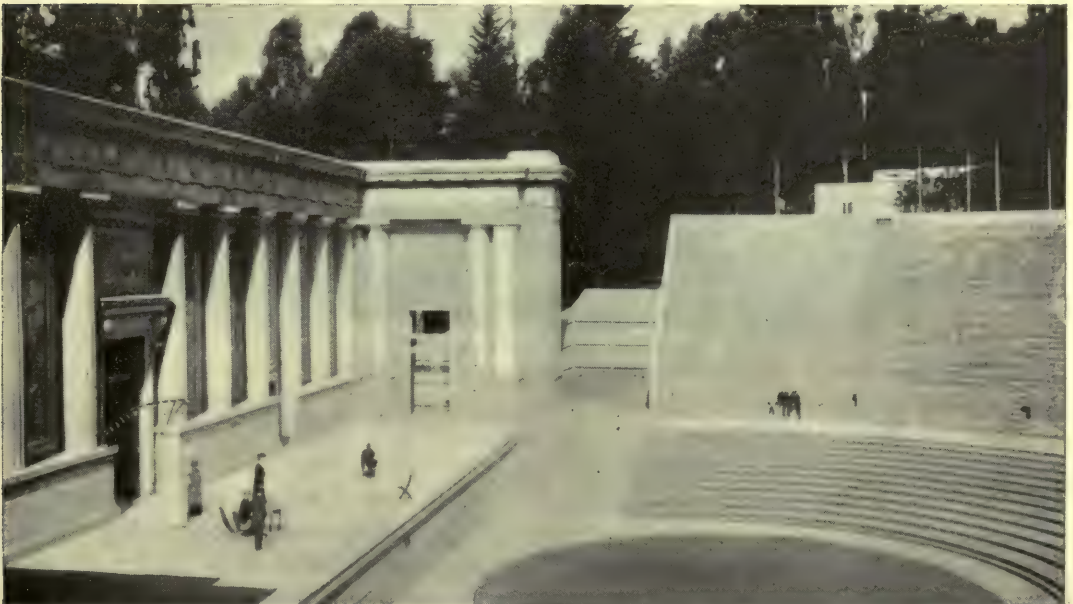
bright California sun. Within the church is little trace of the conventional. The assembly room is modern and convenient in every respect. Such is the Unitarian church of Berkeley, without spire or bell, unique even among new churches.

At the back of the University of California campus, cut into the hillside, is located the beautiful Greek theatre. The town of Berkeley can boast that through the gift of William Hearst it possessed the first Greek theater in America. Here among the immense pines and giant eucalyptus, the student is introduced to the old world of the Greek.

It is a most perfect out-of-door theatre, built exactly like the theatre of ancient times. One can imagine that he has slipped back a few centuries as he enters

this vast amphitheatre. Thousands of people can be seated on these tiers of stone seats, and here the university holds many exercises, as California weather will permit out-of-door gatherings at almost all seasons.

Here a band sounds better than in a close opera house, here a beautiful solo, sung while the sighing trees murmur accompaniment, is the most perfect delight. This theatre has been much talked of, and has been copied by some eastern universities, but in no other region can the Greek idea be so successfully carried out as in the mild climate of California. The stately columns of the broad stage, the classic entrances, the great tiers of stone seats, combine to make a structure of which the state university is justly proud.



GREEK THEATRE, BERKLEY, CALIF.

Notes on Gardening



AN AMERICAN BEAUTY ROSE BUSH.

Tea Roses.

A GREAT variety of roses have size, brilliant color and are very fragrant, yet to many the tea rose has a peculiar charm. Its very simplicity, modest bearing and delicate tea odor makes it a favorite among roses. Two varieties of special interest are pink and white Maman Cochet. The flowers are remarkably beautiful in form, charming in color and remain perfect long after being cut.

The white is even more beautiful than

the pink, being tinged with rose color. The buds, which are unusually well shaped, should not be cut until they are about three-quarters open, as they are then at their best. The plants are vigorous, of their kind, and bear many flowers. The tea rose is not in itself a hardy variety and requires special protection in northern latitudes. The earth should be hilled up about each plant and a shelter of boards with a slanting roof to shed the water, built about them. Dry leaves should be placed about the plant

filling the entire shelter. This should be done before the first severe frost comes. Judgment should be used in removing the shelter as it is not well to leave it too long or remove it too early. Tender plants should be carefully watched in the spring till all danger of frost is past.

Backgrounds and Garden Limits.

With a recently improved lot there should be a good opportunity of starting right. It is assumed that all rubbish has been carefully removed and that the soil if not originally of good quality has been supplied.

Consider the outlines of the lot, its physical geography as to grades, the trees already upon it and the adjoining property. The points of the compass are important because sunlight is more essential to some plants than others and storms usually come from some direction peculiar to the locality. Decide just where a barn, garage or other out-buildings will best be located, their relation one to another and where the dividing line shall be between them and the vegetable and flower garden. If any of the buildings are of such a character that they are best hidden, a background of trees and shrubs may be provided. The vegetable garden is often enclosed with a fence of wire, upon which vines may grow or against which shrubs may be planted. Ordinarily the taller plants and trees should be planted at the limits of the grounds, at the sides and across the rear, with as much open space in and about the center as possible. Portions of this can be used later for flowers, but in no case should a lawn be planted all over with isolated shrubs or small flower gardens. Such a scheme is spotty in appearance and depends altogether upon the individual beauty of the plant or flower, with no idea of a well ordered plan for the whole lot. A great deal of study should be given the general outline before any thought is given to the

kind of trees or shrubs to be used. Settle it once and for all, if possible, because a year is easily lost in transplanting and it is time in a garden that brings perfection. If the lot is of good size, the service yard should be entirely separate from the grounds proper, where one may go for rest and recreation.

The weekly wash is more a matter of sanitation than sightliness and should be in a space by itself, screened from view. It is better to figure out quite an elaborate scheme to start with, adding to a well established foundation from time to time till it is complete, than to outline something simple that must be continually torn up to make way for things that were overlooked. If a lily pond is ever to be desirable, let there be enough open lawn in the proper location, to make its introduction a simple matter. It is too bad to move a well established tree to accommodate a tennis court that is an afterthought.

Before the house is built is an excellent time to consider these matters, or even while the plans are being drawn. The architect will, in most cases, have some excellent ideas along this line. The location of the house upon the lot is most important if the appearance of the whole place is to be of the best. If the lot is small and the house itself is the limit of view, the garden plants should be massed about it leading up from the sides of the lot, thus carrying the eye till it reaches the full expanse of the completed picture.

If the house is the background, the shrubs need not be of a large growing variety. A slender poplar may be planted quite close and, if so located that it comes between windows, it will in no way obstruct the view from the house. Vines, hollyhocks, golden glow, with smaller plants and flowers at the base will give a very satisfactory effect. If the garden has to tend away from the

house, and there is no pretty fence or stone wall to give it a natural boundary, plan a heavy, thick, tall background. You can set young poplars or catalpas, both quick growers and good foliage makers. Between them can come forsythias, weigalias and deutzias.

The forsythia will give a wonderful golden bloom early in the spring. The weigalias and deutzias will bloom after the forsythia has lost its flowers and has replaced them with its exquisite green foliage. Thus the background will furnish both flowers and leaves for the whole gardening season.

If you want a background immediately, train honeysuckle, morning glory, cucumber vine or woodbine on stakes. The vines will interlace as they grow, and in the second year you will have an almost impenetrable fence of green. Keep it cut to a height of seven or eight feet and it will throw all its strength into the bottom parts.

Innumerable other backgrounds might be made, the above being only suggestive. The idea in mind is, to put something at a distance to look at, with color furnished by a judicious selection of flowers and shrubbery.

FERTILIZERS FOR GARDENS

How Much Is Needed in the Average Home Plot.

The three important food requirements of plants, whether they be trees, vegetables or flowers, are nitrogen, potash and phosphoric acid. Nitrogen is supplied by nitrate of soda, sulphate of ammonia, fish-scrap or slaughter-house refuse. Unleached wood ashes give a fair percentage of potash and a large percentage of lime, both most valuable. Phosphoric acid is furnished by phosphate rock (prepared chemically) and by bone meal, bone black and guano.

For a plot 100 by 100 feet, 75 pounds of chemical fertilizer will be sufficient unless the soil is extremely barren, when the quantity may have to be increased by 50 per cent. The average home garden needs nothing else so much as abundant potash. For this reason, wood ashes are among the most valuable fertilizers.

It is difficult, however, to get these in any except a wood-burning country, unless you are willing to buy from dealers in garden supplies, who will usually sell only in full 200-pound barrel lots, charging from \$2 to \$2.25. These, however, are the very best ashes, being Canadian hardwood.

Very efficient fertilizer can be made by mixing 20 pounds of sulphate of am-

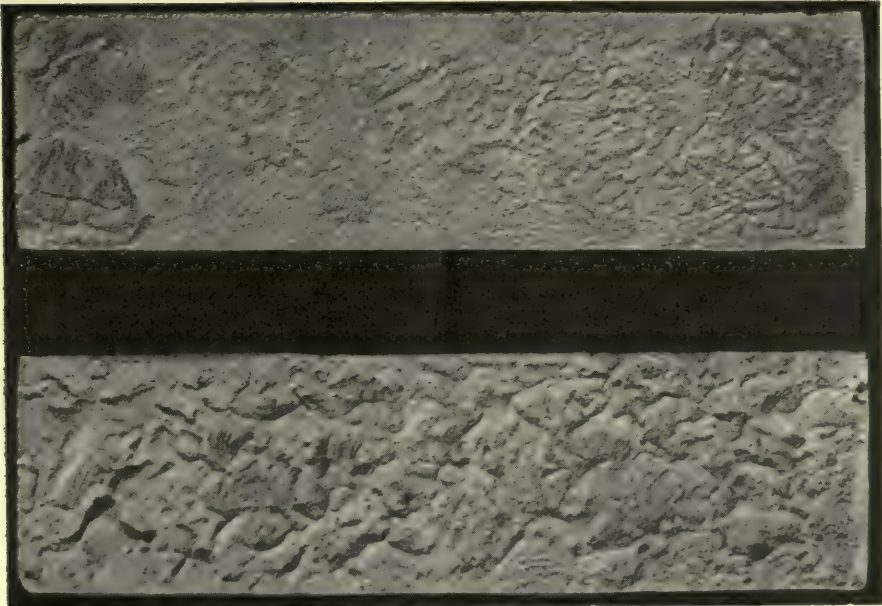
monia, 30 pounds of bone ash and 25 pounds of muriate of potash, all of which can be bought from wholesale chemists at a net cost that will be within \$3.50. A cheaper but very good mixture can be made from 10 pounds of nitrate of soda, 10 pounds of acid phosphate and 10 pounds of muriate of potash. This gives a highly concentrated fertilizer, the muriate of potash being equivalent to more than 60 pounds of wood ashes. It will cost less than \$1.50, but it will lack bulk, and this makes it a difficult matter to so spread it as to give its full benefit to all parts of the place.

Of course, for ordinary purposes, manure, especially from cowyards, is fully effective; but it is not always as easy to get as the chemicals, and it is offensive and therefore not desirable in the front garden.

For the vegetable garden, if the soil is naturally good, a fair average requirement is one-quarter of a pound of chemical fertilizer to the square yard. This will answer excellently for practically every ordinary vegetable, such as onions, spinach, squash, cabbage and lettuce. For peas it is well to feed a little extra nitrate of soda whenever seed goes in for successive plantings. These vegetables devour nitrogen at a great rate, and they can't do without it.

Concrete Tiling

By Warfield Webb



TWO DESIGNS OF CONCRETE DECORATIVE TILING.

THERE are newer possibilities in the development of the concrete industry; ideas that embody altogether different lines in construction work, and these should be noted very carefully by those who are watching the real progress of this industry. One among these newer triumphs that has at least been given a fair amount of experiment, is the manufacture and development of the concrete decorative tile industry. Tiling that is used for bathrooms, fireplaces, lavatories, and in some instances, for floors. It is not possible to attain perfection in any undertaking without careful study, and long experiments. There are details that will arise from time to time to mar the progress of the work, and for this reason it demands the most particular work on the part of the operator. This has a spe-

cial significance in connection with above mentioned idea.

Much of the failure of concrete construction work in all lines, from the most simple to the most costly, has been due in a way from an eagerness on the part of the concrete operators to overlook the details that would make success possible. This is the fault, and the remedy lies in greater pains, and the most intricate study. In the manufacture of this newer tiling for decorative purposes, there is a field that will demand, not alone care, but that will open up newer possibilities for the greater development of the concrete workers' higher art. There are several features in connection with the manufacture of this tile that will make it of far greater value as a structural material, and among these is the saving in cost, the decorative possi-

bilities, and the durability of the tile themselves.

The experiments thus far made prove that the cost of the concrete tiling is about one-half that of the clay tile, the average cost of the latter to the dealers being from fifteen cents to sixty and seventy cents per square foot.

This is a consideration that must appeal to every constructor, and added to this the fact that there is no limit to the decorative features to these tile, is only another factor that makes their use a greater possibility. As to the number of colors there is no limit. They can be manufactured with a dark or light background, in cameo effect, or in mosaic designs. This is done simply with the aid of chips of marble or granite, and there has been work done in this way that was a surprise to the operator himself. The colors are very strong, and the surface can be either made flat or glazed, the former now being the more costly and largely used in clay tiling.

When we consider the single fact that the perfection attained today in the clay tile industry has been due to the labors of centuries, there is every reason why the concrete tile should become a factor with the continued experiments that have thus far made possible the results already obtained, and that within a few months they could compare most favorably with the time-honored clay product. Their durability is assured because it is a fact well known that when a good quality of concrete has been manufactured that it will last for centuries. This is a feature that needs no exploitation.

Another feature in connection with the concrete tiling is the fact that they can be manufactured in a number of different sizes, according to the requirements of the individual, and also in the particular design that may be wanted by the purchaser. The average thickness of concrete tile is about one-half inch, the same as that of clay tile. The methods in use for manufacturing the tile are very simple, and unlike the clay tile do not require burning. They are less brittle also, and in this way are very much less liable to break. The illustrations shown here-

with were made on a concrete brick machine that can be utilized for the manufacture of concrete tiling, by simply making the backing of sand, thus permitting the concrete to attain only the required depth. The face of the tile is manufactured upward, so that the features of colors or other decoration can be worked out by the operator to his desired likeness. The tile are only possible on a machine having the up-face feature, as it will be impossible to perfect the tiling in any other way.

The backing of the tile is a mixture of cement and sand, of about one to three, while the face of the tile is of neat cement, with the addition of such colors or other decoration as one desires in order to perfect his labors. The finished tile are ready for use when the cement has been permitted to set, and the flat face is at once obtainable. For making the face of the tile glazed, the use of an emery wheel is essential, this giving the polish that is found now in the cheaper quality of clay tile.

The work thus far done in this way has been approved of by a number of people who have noted the possibilities in the art, and have predicted that their use will simply be a matter of time. The real secret in the perfection of this newer art in concrete work is that the operator himself must be a man who has the artistic temperament developed to a certain degree. He will find that this is important, as it is in other labors that require the best that is in a man. It is useless to undertake anything that has merit in it, unless the operator can progress each day. The possibilities of concrete construction do not end with the building of a house or other work that merely calls for strength and durability, but it has in its makeup some features that are to be studied, and to open the way for other features that are as yet in embryo. This newer feature of concrete decorative tile is one of these, and the results of the labors thus far expended have proven that there is a future in the development of the same that is worthy the consideration of thinking men.

Designs for the Home-Builder

AT this season of the year the design section is of special interest to our readers. This is the time when business for the year is well in hand and the outlook is favorable, giving confidence to prospective builders. Even where weather conditions are such that active construction work may be carried on at any time, the man who is going to spend his money in a home likes to feel that the year is well established as a prosperous one before beginning work. A great many are selecting designs now with a view of getting started at once, thus having the advantage of all the best weather before the stifling heat of midsummer takes all the life and energy from the workmen. Another advantage is the fact that an early occupancy of a house built during the summer is desirable, because it affords time to get the family properly settled before winter sets in. There are always a thousand and one things to do to a new place after all the items of the contract have been fulfilled. The lot is full of lath, shingles, brickbats and every conceivable building material refuse, all of which must be disposed of before the lot can be put in shape. If trees can be set out, shrubbery planted and sod placed, the next spring will see a degree of progress all out of proportion with the age of the place.

The sooner the plan is decided upon and the house started, the sooner will the owner be able to move in. He will find the time none too long to get the house and grounds in shape before the cold weather puts a stop to further work. The man who is looking for a house of good size of concrete construction will find two very satisfactory designs.

The artistic cottage, the bungalow, the two-storied house of shingles and cement and the square house are all here represented by good examples drawn by capable designers.

Design "B 143"

Walls and chimneys to be of plain or bush-hammered concrete blocks, laid up in alternating wide and narrow courses. Inside of all exterior walls to be covered with R. I. W. and plastered. Concrete blocks are also to be used for basement walls, piers and partitions. Basement walls to be waterproofed, partitions to be plastered directly on the concrete blocks.

Footings to be concrete. Basement floor and floor in dining room porch to be concrete with cement finish. All flues to have tile lining except kitchen vent. All floors to be reinforced concrete with wood floors on top, nailed to sleepers imbedded in the concrete. Building paper is to be used between floors. Balcony and porch floors to have cement finish stained. All sills and steps to be of concrete as well as hoods over entrances. Same to be stained little lighter than general tone of the house. All lintels to be of concrete block reinforced with iron rods in lower chambers of blocks. Roof to be of reinforced cinder concrete with asbestos shingles nailed directly to concrete.

Oak trim in main rooms; yellow pine in remaining rooms. All rooms to have continuous head casing with corner casings in main rooms. Casement windows to be used throughout. Same to swing out except in basement, where windows are to swing in and up. Cubic contents, 40,075 cubic feet.

The itemized estimate of the designer placed the cost at \$7,967.

Cottage Designs for the Home-Builder—Continued

Design "B 144"

This reinforced concrete residence as illustrated, is constructed on an entirely new system, which the contractor claims is a very great saving in labor and materials.

This is a location where the land falls away from the street some 20 feet and as there is a remarkably fine view at the rear, the house has been specially designed for this location, with plenty of piazza and balcony space.

The house is so designed that the rear part of first floor could be used as a separate bungalow residence by making the lavatory into a kitchen, and using the music room for a dining room. On this same floor are two good chambers and a roomy bathroom in this wing, practically making two houses if desired.

On entering the house from the street, one is impressed with the roomy hall and wide stairway, the stairs being 4 feet wide of reinforced concrete handsomely finished in white enamel with mahogany rail.

The hall is 8-0 wide and is very tastefully finished with a beamed ceiling, and the walls are painted and stippled in a soft green shade. From the right we enter a large, well lighted living room, 12x26, with a recessed fireplace nook 40x12, with beamed ceiling, beams being four feet apart. Although these beams are of reinforced concrete (as is every part of the house throughout) they are colored to resemble antique brown oak with the panels between beams finished in a soft, cream tint. The walls are painted a soft primrose yellow with ivory white trimmings; the sash are all finished in ivory white and the doors a rich mahogany, rubbed to a smooth, dull finish. This makes a beautiful homelike room and the cosy recessed wide fireplace with seats on either side, and mantle of concrete finished in a brown stone

color, makes a room well adapted for entertaining a large party as well as for solid comfort.

The dining room has a beamed ceiling and also a plate rail 6-0 high with birch doors finished a mahogany color, and with the pretty casement windows gives a very satisfactory room.

The kitchen walls are of white cement tile 5 inches square and 4 feet high, enameled a cream white, the upper part of the walls being painted a pale robin's egg blue and stippled and finished in a dull egg shell gloss.

The plumbing is finished open with pipes of polished brass and the floor is tiled a dark shade of red, making a very clean and attractive sanitary kitchen.

Going to the second floor, the stairway leads into an unusually large and well lighted hall 8x12, from which there are French windows opening out onto a balcony 10-0 wide x 22 long and from here there is a delightful view of the surrounding country.

There are three good sized chambers, each having a good roomy closet. There is also a large linen closet and a stairway leading to the roof where it is arranged for a roof garden with a protecting balustrade on all four sides.

The outside walls of the house are finished a soft gray color and the roof is trimmed with a mission design of red tile.

The whole treatment is artistic and very effective, and is something of a new design, being what might be termed a combination of a Spanish and mission style. There is absolutely no waste room about the house. It was intended to combine the artistic with economy and this seems to have been attained as the contractors inform us that this house can be built complete in every way, including hot water heating, at a price which is be-

Cottage Designs for the Home-Builder—Continued

low the cost of a first-class wooden building.

The contractors are also the owners of what they term the Interlocking Stone System, which is a reinforced system of concrete of which they are the patentees. Built in the location illustrated this house would cost from \$15,000 to \$18,000.

Design "B 145"

This simple little brick bungalow is built in the West and is nicely adapted to the needs of a small family. The exterior walls are dark brown brick laid in deep red mortar. The gables, bay windows, ceilings of porches, etc., are plastered with cement and given a rough surface. A dark oak brown paint is used on all the exterior woodwork, giving a very pleasing effect.

There is a large vestibule, with a coat closet, opening through a columned archway to the living room. A fireplace at the end of this room adds much to its appearance and is opposite the two columned opening that leads to dining room and vestibule respectively. The dining room opens also upon the central hall and to the pantry. The bay window at the side adds to its width and gives it ample light.

The pantry is located to the rear of the dining room, is well fitted up, and opens into the kitchen. There is an ample back porch from the kitchen, also a door to the basement and another to the central hall. There are two bedrooms, each with a closet, a linen closet and a bathroom. There is a good attic storage space above reached by a stair from the hall. The interior finish is selected Texas pine, stained and wax finished. The walls are rough sand finish tinted. There is a basement under the entire house containing laundry, cellar, furnace and coal room with cement floors. The contract price as furnished by the architect,

including plumbing and heating, was approximately \$2,750.

Design "B 146"

There is a peculiar charm about this house in the English style with its stucco, shingles and half-timbering. It is homelike and restful with an air of refinement and simplicity. The lower story is of frame construction, covered with expanded metal and cemented over, receiving a final dashed coat of uniform roughness. The shingles above are laid with double courses at regular intervals giving extra strength to the shadow effect. The trim is in dark brown stain except the windows, which are painted white, forming a pleasing contrast with the shingles and cement. There is a central hall with stairway and the dining room, pantry and kitchen are located on one side and the long living room and its sun porch on the other. A flight of rear stairs leads up from the kitchen to the main stair landing. On the second floor are three large chambers with closet space, a sewing room, a bathroom and a large balcony at the rear. There is a large attic that might be divided into rooms.

The basement is divided into laundry, fuel, furnace and storage rooms.

The first story is finished in oak with oak floors and the second floor in pine to paint with birch floors. The basement is 7 feet 6 inches high, the first story 9 feet and the second story 8 feet 6 inches.

The architect stated that this house was finished complete even to the decorations and lighting fixtures for \$5,200.

Design "B 147"

Planned for a lakeside summer cottage and a design which should be built on a wide lot, for it is planned 41 feet wide. What a generous—nay, luxurious porch, 10 feet wide, this gives. Plenty of room to swing hammocks at both ends and be well clear of the entrance.

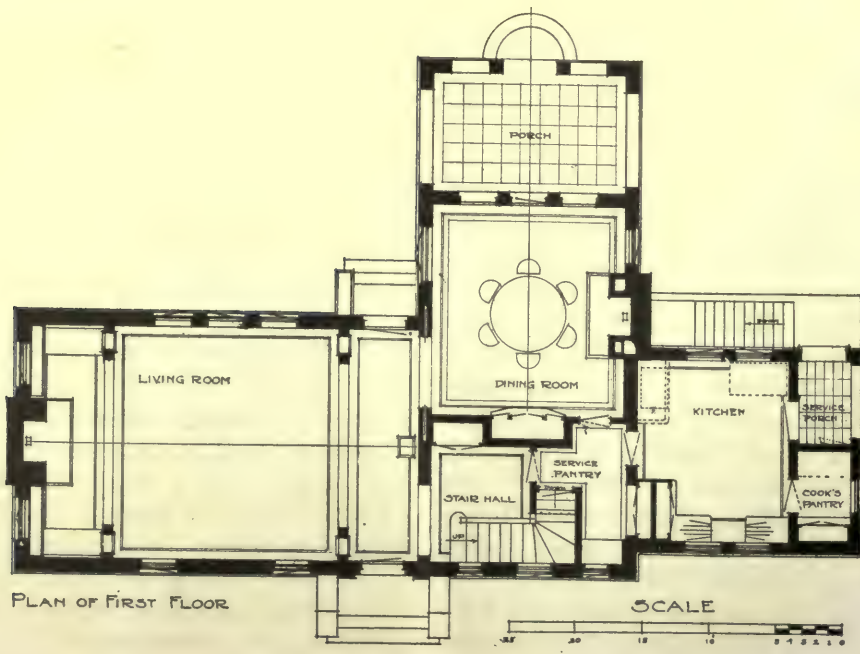


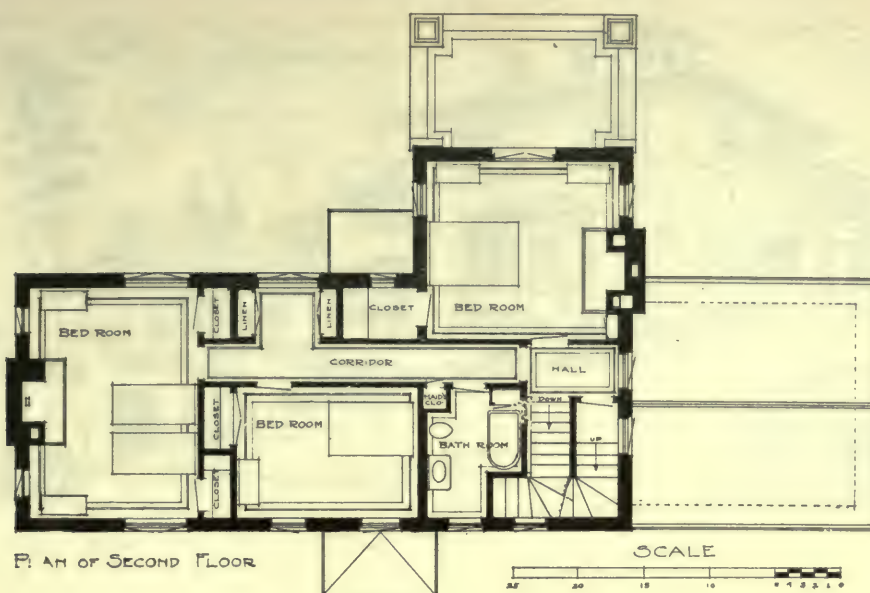
Courtesy Universal Portland Cement Co.

R. C. OSTERGREN, Designer

A Cement House on Simple Lines

DESIGN "B 143"





Cottage Designs for the Home-Builder—Continued

Although the photographic view shows exterior finished in siding, shingles would secure a much more artistic exterior. Drop siding could be used with some saving in cost and if properly stained, a very satisfactory effect could be secured.

Special attention is merited to the lay out of rooms which has been planned, the thought in mind being a house "for the good old summer time." Lots of company and rooms in the front which can be thrown open to make practically one great room across the front. If additional sleeping quarters are required, the living room can be made into a third chamber and those wishing to add an open fireplace can build an outside chimney at the end of dining room.

Estimated cost in yellow pine finish, \$2,275. This means ceiled walls. No finish on second floor. Size of cottage 41x27½ feet and height of first story is 10 feet.

Design "B 148"

This design is a model for a brick or concrete block cottage home. The attractive vista opened up across the entire breadth of the house, the prettily arranged combination staircase, the cozy study at the end of the living room with the fireplace, convenient access from the kitchen to the front door without passing through any other room, the economical hall arrangement on the second floor, with provision for bath room, etc., all make the interior quite as attractive as the outside appearance of this cottage.

If a larger house were desired it would be well to carry up the second story full height, and a very attractive design could be made of it thus.

There is a full basement under the house with a cemented floor. Hardwood floors and finish in all the principal rooms of the first floor are included.

Width, 36 feet 4 inches; depth, 25 feet 10 inches; height of basement, 7 feet 6

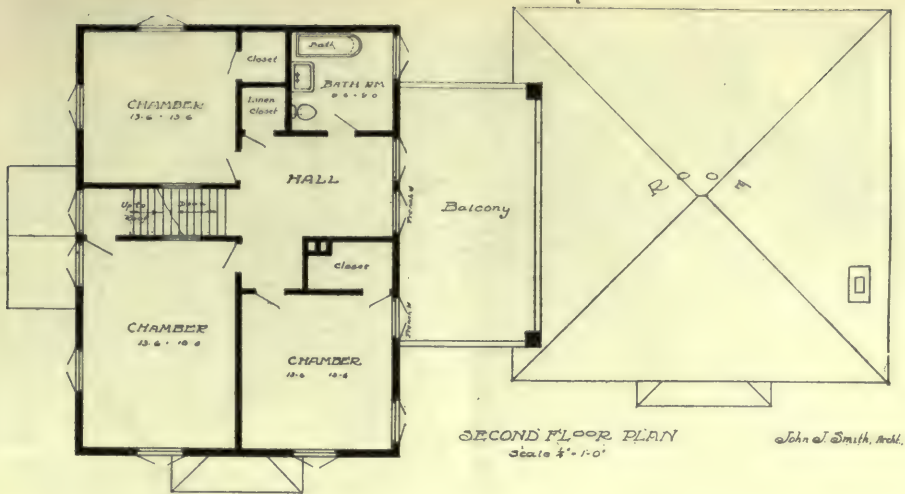


JOHN J. SMITH, *Architect.*

A Unique Concrete House

DESIGN "B 144"





Cottage Designs for the Home-BUILDER—Continued

inches; first story, 9 feet 5 inches; second story, 8 feet 3 inches; lowest height in second story, 6 feet. Estimated cost, \$3,995.

Design "B 149"

This Italian design makes a beautiful home for a wide lot and especially designed for a rural home, at Lakeside or Seashore. Entering through a Portico entrance with side lighted doorway into the reception hall or alcove off from the main living room, the latter extending across the left from front to rear of house and lighted on both sides is 14 feet by 27 feet, with a wide fireplace and wide French window on each side of the fireplace, opening out into a spacious screened porch, that is 12 by 27 feet, above which is a screened sleeping porch and all enclosed under the main roof. The roof is low pitched, with widespread eaves, projected 4 feet, the rafter timbers showing and finished on the underside. At the right of the entrance is the dining room, back of which is the kitchen, opening through the pantry. A maid's

room and porch are at the rear. The main staircase is centrally located with a section of stairs, leading up from the kitchen to the main platform.

On the second floor there are five sleeping rooms, each provided with closets and a large bath room. The attic story reached from the rear stairs is low and lighted with small windows below the eaves and has ample space for storage purposes. There is a good basement under the entire house, laundry, etc. The finish throughout is in Washington fir, with dark flemish stain and the floors of birch left in natural color. The casings and woodwork are very simple.

The exterior is cemented to the top of the first story and the second story is covered with wide rough siding, stained brown. The roof shingled and stained red and all of the casings, cornices, etc., painted white.

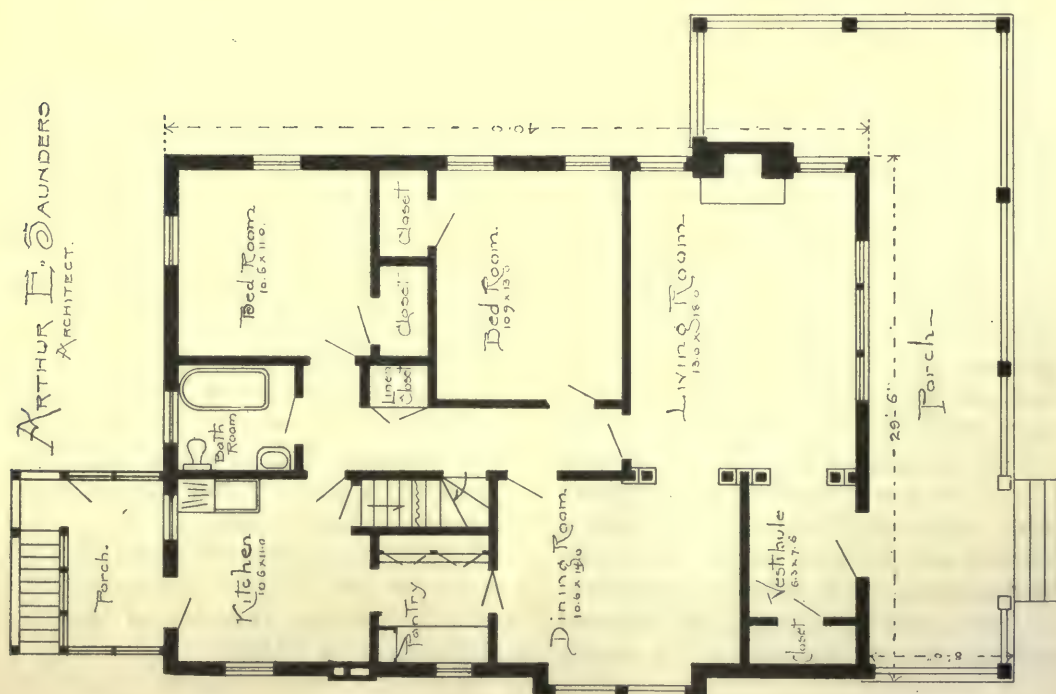
The total dimensions are 56 feet frontage by 28 feet depth. The estimated cost of this house, exclusive of heating and plumbing, is \$7,000.



ARTHUR E. SAUNDERS. Architect

A Simple Little Brick Bungalow

DESIGN "B 145"

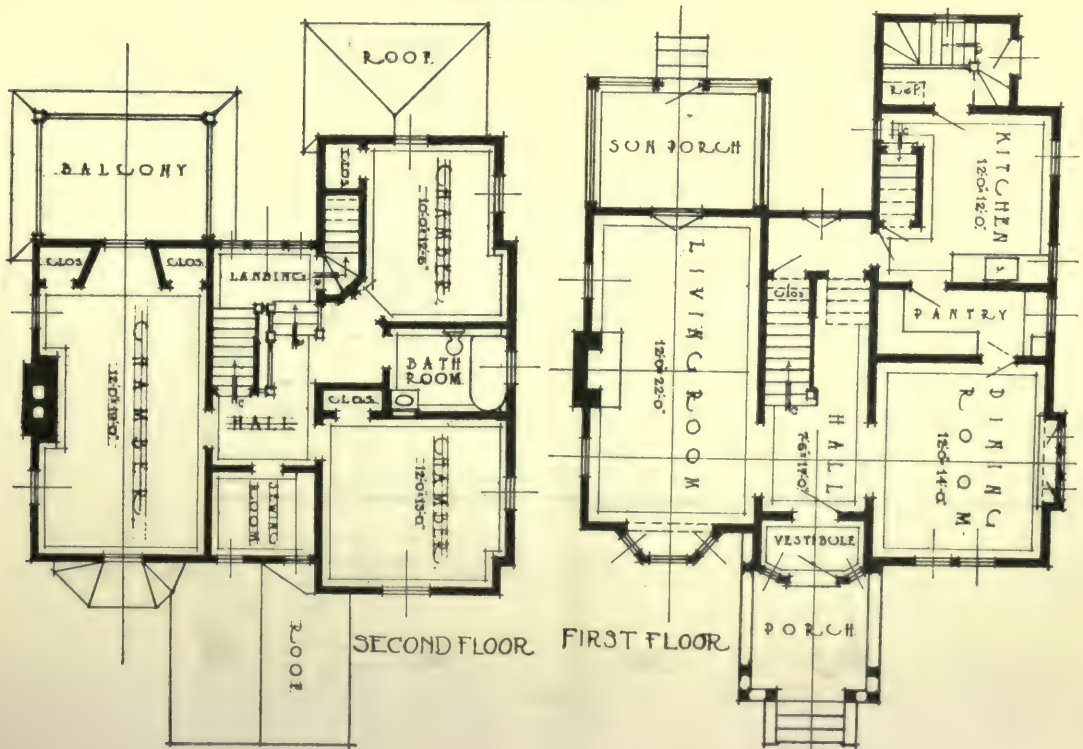




CECIL BAYLESS CHAPMAN, Architect

Restful and Home-Like---English Style

DESIGN "B 146"

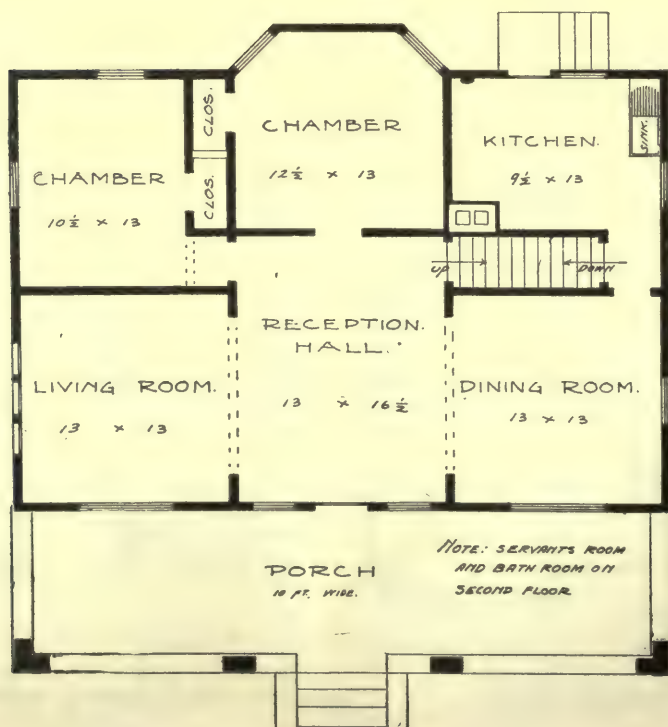




Journal of Modern Construction Series

A Brown Bungalow with White Trim

DESIGN "B 147"

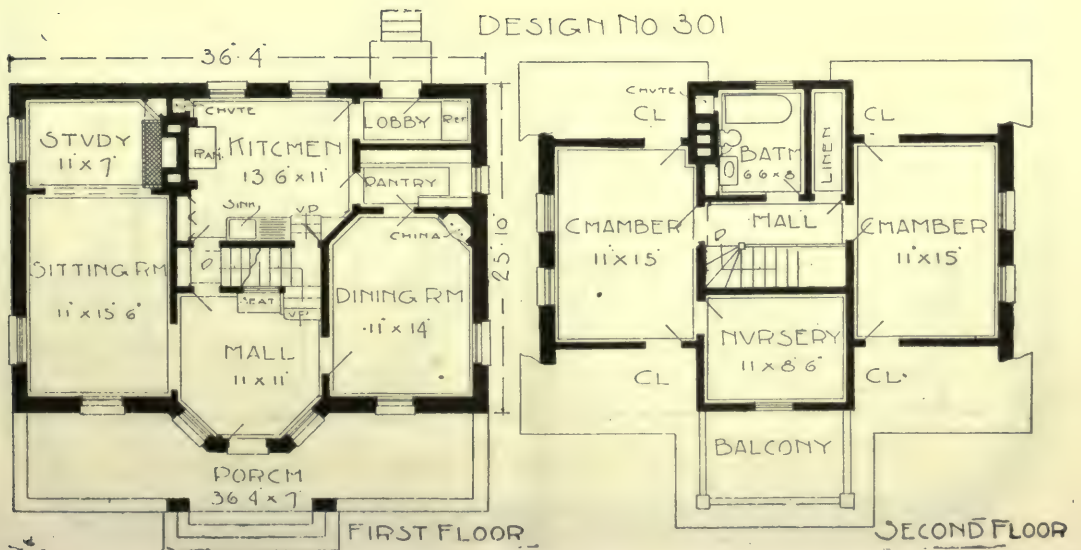




THE KEITH CO., Architects

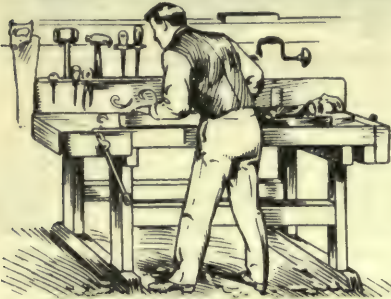
A Simple Brick Cottage

DESIGN "B 148"



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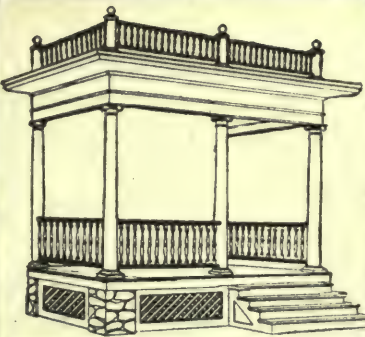
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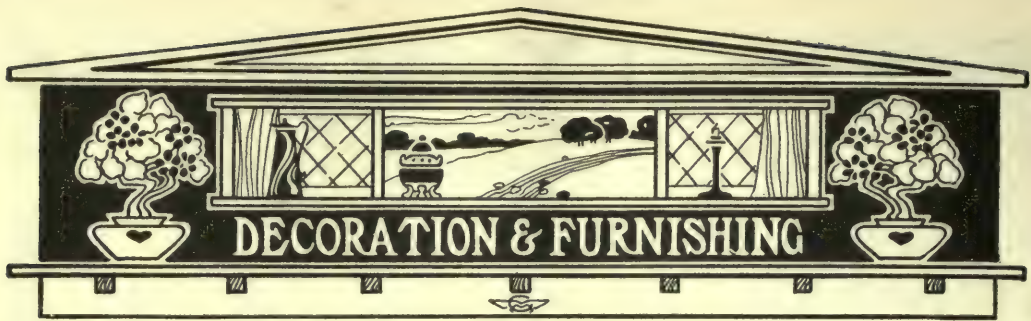
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Cretonnes for 1910.

CRETONNES are firmly entrenched. Each season sees a greater variety of coloring and design than that before it. The tendency would seem to be toward more positive colors and larger patterns. That is in the English and American goods. Most of the French ones, with the exception of the shadow cretonne, otherwise known as *toile jaspé*, are in small patterns, and have white, rather than cream colored grounds. The French designer would seem always to have in mind the white wood work of the typical French house.

Hand Printed Cretonnes.

Practically new this season are the French hand printed cretonnes, small patterned and dainty, suggestive on a small scale of old, eastern chintzes. Each part of the design is printed by hand, the result a dainty precision of outline quite unlike that of machine printing. Thirty-one inches wide, these cretonnes cost a dollar and fifteen cents a yard. It goes without saying that they have all the durable qualities of French cottons printed with vegetable colors, and may be relied upon to fade harmoniously, improving with years.

Repped Cretonnes.

Repped cretonnes at sixty-five cents a yard are a desirable purchase for rooms which do not get hard usage, as they are very decorative. Most of them are open to the objection of having large uncovered ground spaces of light color, which show soil easily, but there are a few dark colored ones having the effect of fruit and flowers worked in cross stitch. The same pattern can be duplicated in silkoline for curtains.

Among the lighter colored cretonnes of this sort are those whose design is a combination of peonies and ribbons. One coloring shows the flowers in shades from salmon pink to light red, the ribbons blue; another has an effective combination of lavender flowers and green ribbons. This latter is most effective with the soft gray of silver maple furniture.

American Taffetas.

Double width American taffetas cost only fifty-five cents a yard, in the quaint pattern of tropical birds and flowers which suggests the crewel embroidery of our ancestors. They are said to wash, but the writer distrusts the statement, having had experiences with their sort. On the other hand, their brown linen colored ground keeps clean a long time, and they look like something better than they are. They are too stiff to hang well and not available for curtains, but just the thing for a big easy chair or for a slip cover for a long sofa.

Printed Linens.

In quite another category are the double width printed linens, at two dollars and seventy-five cents a yard. These, too, have a natural linen ground, but they are very flexible and will last a generation, improving with time. They harmonize beautifully with mahogany furniture and with brown toned oak, and would seem to be just the thing for a Craftsman bedroom, of not too extreme a sort. One of the newest printings is the many colored palm leaf pattern of the old French cashmere shawls.

Willow Furniture.

It is surprising how little summer furniture is seen in anything but green. One big New York house carries a stock of

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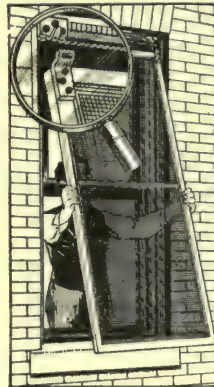
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Architects: Descriptive details of Morgan Doors may be found in Sweet's index, pages 678 and 679.

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Decoration and Furnishing—Continued

golden brown willow, also some of the uncolored pieces, but everywhere else, except in some small and exclusive shops, the bulk of the stock is green, of a distinctly olive tone. Occasionally it is brightened by upholstery of colored cretonne, but more often cushions and all are green.

It is possible to get almost every article of furniture in wicker, but it must be admitted that the desks and tables and bookcases are far less satisfactory and more costly than the corresponding pieces of wood. There is no possible comparison between the wicker table costing twelve dollars in green, and the hardwood table with a swinging top which can be bought for the half of that sum and stained to match chairs and settle. And a wicker muffin stand costs about the same as mahogany.

Here and there one finds something especially dainty in wicker furniture intended for a bedroom or a summer sitting room. For instance, a set of chairs and settle is painted a delicate blue and fitted out with cushions of a French cretonne in a pattern of lilacs and their leaves in pastel shades. A set of chairs in the natural color of the willow is highly varnished and given cushions of an English chintz with a pattern of spring flowers in green and yellow.

For real service, for loose cushions, for summer furniture, there is nothing quite equal to the hand woven Indian linens, forty-five inches wide, at a dollar a yard. They fade, as what does not, but they fade so harmoniously that their last estate is their best, and their artistic qualities leave nothing to be desired, either in texture or color. They are not popular with the general trade and must be sought in by corners, but they are worth an effort.

Also, the Morris cretonnes combining blue and green are most effective with green willow furniture. They, too, fade well, are reversible and not expensive, costing about sixty-five cents a yard, sometimes less.

Chinese Willow Furniture.

The searcher for cheap willow furniture will hunt out the furniture department of a big Oriental shop. There he will find hour glass chairs from Canton,

of distinctive charm, for five dollars apiece. A larger chair, with the same wide arms, but square instead of round, costs seven, and long cane lounging chairs about ten. Outline, proportions, workmanship, all are delightful, wonderfully different from the occidental chairs turned out by the hundred. Add cushions of bright colored Java cotton, blue and orange or a Persian pattern with much red in it, and install your bit of the Orient where it will have the best opportunity to display its charms.

Chinese willow furniture compares specially well with old mahogany. It was one of the things the captains in the India trade used to bring home to the old houses in Salem and New Bedford and Nantucket, along with a hogshead packed with blue Canton ware, or the more choice green India, which we know as Chinese Medallion ware.

New Wall Treatments.

The French block printed cotton, mentioned above, was used in a bedroom furnished in dull finished mahogany. A width was carried around for a frieze, above a side wall of fawn-colored grass cloth. More of the cretonne was used for hangings at doors and windows and for spreads for the twin beds. The rug was a velvet in two shades of fawn and there was no upholstery, the chairs having rush seats.

In another room, this an upstairs sitting room, the many pieces of white mahogany were effectively relieved by a wall of satin striped paper in two tones of old red, with an Oriental rug repeating the lighter tone of the red in combination with duller colors. The adjoining bedroom had the same paper and white enameled furniture. In both rooms the pictures were old prints with margins, not mats, and narrow gilt frames.

To be laid above a side wall of Japanese grass cloth, in a tan or golden brown shade, there is a landscape frieze of considerable depth which represents a vista into a forest at sunset. The trees are in their autumnal foliage and the whole is a study in warm tones of orange and brown. This frieze, which was mentioned in these pages some months ago, as being used in a den, above a wainscot of splint work, comes in two widths,

Decoration and Furnishing—Continued

twenty-four and thirty-six inches, in lengths of forty-five inches, costing respectively eight-five cents and a dollar and a quarter. The separation between the two parts of the wall is defined by a wide strip of dark wood, studded with ornamental nails.

The very latest thing in wall papers, intended for bedrooms, or for country house parlors, is a side wall paper of white or cream, with a fabric effect, broken occasionally by a small sprig of flowers. This flower is repeated in a cut out border of two widths, one for the top of the wall, the other to be laid above the surbase, and both borders reproduce the pattern of a cretonne for draperies. The matching of the two materials is absolutely perfect, unusual with papers and cretonnes of moderate price. In low studded rooms, only the narrower border is used and it is carried entirely around each wall, making a panel effect.

Moorzuk Rugs.

Intended primarily for the piazza, but available for indoors in summer houses are the Algerian rugs, woven of some hempen fibre. Most of them are exceedingly bright, the designs rather primitive like those of the Navajo rugs, but there are some in two tones of brown or green which are very good. Eight by fourteen feet, a porch size, they cost eighteen dollars and seventy-five cents; nine by twelve, eighteen dollars.

Antimony.

The Japanese shops show a variety of small objects, picture frames, boxes, trays, etc., in what looks like dull silver but is said to be antimony. They are elaborately ornamented in relief, in a peculiarly Japanese fashion, and are very reasonable in price, a photograph frame costing sixty-nine cents, other pieces in proportion. The saleswomen caution buyers not to use silver polish on them when tarnished, but to rely upon soap and water.

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ANSWERS TO QUESTIONS

ON INTERIOR DECORATION

Editor's Note—The courtesies of our Correspondence Department are extended to all readers of Keith's Magazine. Inquiries pertaining to the decoration and furnishing of the home will be given the attention of an expert in that line.

Letters intended for answer in this column should be addressed to Decoration and Furnishing Department, and be accompanied by a diagram of floor plan.

Letters enclosing return postage will be answered by mail. Such replies as are of general interest will be published in these columns.

E. E. S.—I enclose draft of room for suggestions. The stairway is open and goes straight up. All the woodwork is golden oak. This is our general living room and front doors open into it; no hall. I plan to have a small coat cupboard next to stairs, then mantel and then built in book shelves. It is nine feet from the stairs to dining room door and thus the space would be filled. What sort of mantel would you suggest? Brick, stone, wood, high or low top, with or without glass. I want to use brown and green with a touch of dark blue in color scheme. Is the ceiling too low for ceiling beams? I want the furnishing to be plain, something of the arts and crafts style; dull finish on furniture. I would like the room to be in good taste and as simple as possible. Please suggest curtains. The bay window consists of two plain sash at sides, evenly divided, center large pane, lower sash open narrow sash of dark blue art glass. I would like to have the upper sashes all changed to leaded glass, but hardly think I can at present.

E. E. S. Ans.—We are sending you an answer by mail to your letter of the 19th asking for suggestions on the interior decoration question and hope that the same may prove of good practical value to you.

An examination of the sketch shows the ceiling to be not quite 8 feet in height and too low for ceiling beam. It is advised not to break the wall height in any way and to place the picture molding at the ceiling angle. In regard to finish of woodwork, it is suggested to use a fumed brown or weathered stain, rather than golden oak, as this would be in better harmony with furniture of the arts and crafts style in dull finish.

Brick facings would look well for the

fireplace and the brick could be either an ecru colored, smooth surfaced brick or one of the new effects in broken faced, vitrified brick, in mottled greens and dull reds. In the latter case, tile must be used for the hearth. The style of mantel should be plain and craftsman like. An excellent model for your use would be the fireplace shown on page 30 of the January KEITH'S. Such a plaster panel above the shelf would be in far better taste than a mirror. You will find 9 feet not enough space to get in the chimney breast, a bookcase and coat closet. Why not partly enclose with plain board paneling, part of the space under the stair and use that for a coat closet, having a door in the paneling. This will still give you the open stairway effect.

In the bay window, a seat across would add much to this nook, especially if cushioned to match the color scheme. The blue art glass is much to be deprecated. Why not use the plain, leaded glass in that one narrow center sash? As the room is not so very light, it is advised to use a soft ecru color on the walls, slightly lighter tone on ceiling and green in the furnishings. This with the brown woodwork and furniture will give you the desired color scheme. Two or three brown wicker chairs upholstered in a cretonne showing green and blue on a cream ground will add much and the same cretonne used on the window seat. Nothing could be prettier for curtains in such a room than the sheer, barred scrim in pale ecru edged with narrow fringe or a finished edge—either one costing 5 cts. a yard only, but adding much to the appearance of the curtains.

C. H. F. We have two rooms where the wood is finished with paint—grained in dark oak—one where it is just dark paint. We wish to finish them differently

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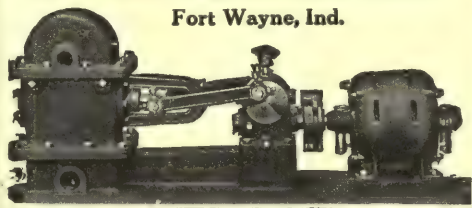
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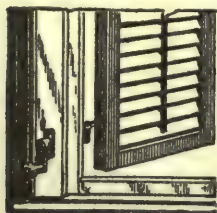
Answers to Questions—Continued

but I do not like white paint or enamel, as there is so much woodwork—many doors and windows, and two very large folding and sliding doors.

Can you give me any idea as to what can be done other than using white or ivory, or removing all the paint and finishing natural, which I am afraid could not be done, as the woodwork is not all alike. I enclose piece of wall decoration for sitting room and library.

Ans. C. H. F. In regard to your interior woodwork, it is advised to re-paint it rather than try to remove the old finish. In the living room and library the woodwork should be made a warm brown, a shade darker than the paper. You want, if possible, to convey the feeling that it is an intentional part of the scheme, and to make these rooms a harmony of brown tones. An important point, however, is the treatment of the ceiling, which should be a deep-warm cream, or all is lost. If the ceilings are high, the cream tint should be brought down a foot or more on the side wall and brown picture moulding placed at the joining.

It is strongly advised to take the folding doors off their hinges and to keep the sliding doors usually open, using draperies of brown velour or rep in their place. This will diminish the amount of painted wood surface and help greatly. The rugs should be cream, not white. The dining room woodwork may be painted an olive or bronze green, the shade of the paper or burlaps. But do not get a bright green nor yet a dark green. There are warm olives that will give you a very delightful room and will be in harmony with the brown of the other rooms.



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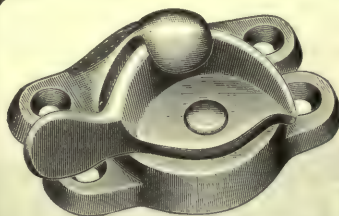
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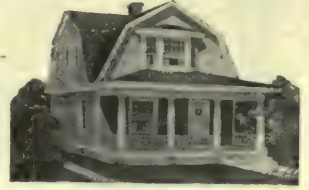
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Plus or Minus Friction.

THEORETICALLY everyone knows the immense waste in all the manufacturing processes caused by friction. It is this loss of power through friction that makes the attainment of perpetual motion a vague chimera of the imagination, instead of a possible end of inventive skill. But how many people appreciate the loss from human friction? The frittering away of time, the needless irritation, the nervous waste caused by the attrition of human beings, of a single day in the household, can hardly be estimated. Multiply the single item by three hundred and sixty-five and you have an appalling total.

As long as the solitary are set in families, some friction must be accepted as one of the conditions of living, but by no means the common amount. This necessary friction is to be borne with such patience as one may summon, but the unnecessary friction is at our own disposal, only waiting the needful command to disappear.

The necessary friction arises from the conflict of temperament between the members of the family, a conflict which is not simplified by the extreme development of individuality incident to modern life, also by the varying standards of taste of different individuals. Its only remedy, and that not always an effectual one, is the cultivation of a spirit of mutual concession on minor points and of respect for each other's idiosyncrasies. It is not always an effectual one, because there are some people with whom it is impossible to live on any sort of terms. Paul said, "As far as in you lies, live

peaceably with all men," evidently recognizing that the task was well nigh impossible. And some people are so constituted that they resent concessions and toleration, as indicating a lack of interest in themselves.

But the needless friction can be lessened greatly, if not entirely obviated. Some of it will depart in the wake of re-division of the labor of the household. I am thinking of the servantless household, where two or more very unlikely people try to share the same processes. Everyone has seen the slow woman and the rapid woman dividing the dish washing, one washing and the other wiping, the rapid woman spending half her time waiting for the other, the perversity of things ordaining that the slow one always insists on washing. A redistribution of the household tasks with some regard to the preferences and capacities of the different laborers will help. So, too, will the assignment of one division of the housework to one person, another to another, even if it is only from week to week, with frequent changing off. Too few households recognize the fact that different sorts of housework are easier, for one than another, that a woman may be an excellent cook and a futile cleaner, with a happy oblivion of cobwebbed corners and dusty rafters, with the result not only of friction but also of much household discomfort. If the science of housekeeping were not greatly behind others, the principle of specialization would be more generally recognized and applied.

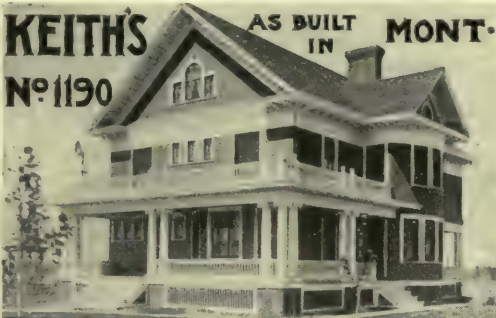
Another source of friction will depart when less is made of the social tradition of the household. Blood makes a dif-

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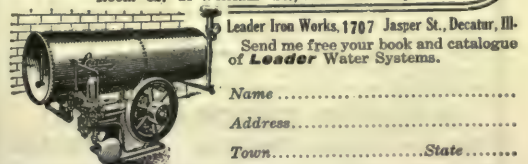
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Household Economics—Continued

ference, it is true, but not the closest ties of kindred can make people at opposite mental and spiritual poles congenial. Why impose continual contact upon people wholly unlike? If you want to see the highest development of family feeling, of attachment to the home and the family, you should seek it not in individuals who have never been away from it, all of whose interests have been bound up in it, but among those who have been forced to leave it, only returning at infrequent intervals. In too many households there is an insistence upon the forms of a common life which is irksome in the extreme. One member of a family must make an early start in the morning, therefore half-a-dozen cross and sleepy people breakfast at seven in the dark of winter mornings. The entire family must gather around the evening lamp no matter what hobby or pleasure invites in some other part of the house.

Domestic friction always results from the deprivation of personal liberty. It is not in the nature of things that any of us should indulge to the full the innate craving for liberty, but any reasonable being is content with freedom in the non-essentials of daily life. To secure that freedom for each individual member should be the aim of every family. When that is done, most of the unnecessary friction will have disappeared.



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On the other hand it is much cleaner, as it burns out to a fine brown ash, with hardly any solid residuum, obviating the need for sifting, and the ashes being heavier fly less. The difference in heat is very perceptible. The surface of the range or stove is exceedingly hot. Irons will heat in about half the time required when ordinary coal is used, and all the cooking processes are more rapid. One sensible advantage is that it ignites quickly, ten minutes sufficing to get up a hot fire, if all the drafts are left open. Like most improvements it requires to be managed with discretion and it would be very extravagant in the hands of most servants. The same thing is true of gas cooking.

People, who have experimented with it, say that it gives admirable results when mixed with an equal quantity of hard coal. The writer can testify to its staying qualities when a fire is to be kept over night. People who are willing to give its use personal supervision will find it worth trying.

Bleaching Out.

One sort of clothing left-overs seems particularly hopeless. What is it possible to do with faded muslins? Boiling them in a strong solution of cream of tartar will discharge all the remaining color, leaving them white. A visit to a public laundry will complete the bleaching process. Heavier cottons, after being boiled can be dyed with vegetable dyes and utilized for pillow covers for the piazza. Vegetable dyes, with directions for their use, can be had of the New York Society of Arts and Crafts.

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¶ It is a mistake, in making arrangements for the painting of a house, to merely ask the painter two questions, "*How much?*" and "*How long?*"—meaning, how much will he charge and how long will he take to do the job.

¶ The real vital question—the "acid-test" of the painter's reliability—is: "What kind of paint are you going to use on my house?"

¶ If the answer to this question is "Pure white lead and pure linseed oil paint mixed for the job" then you may be reasonably sure that good materials are going on your house. If the painter adds that he uses the white lead with the Dutch Boy Painter trade-mark you may be sure the white lead he uses is free from adulteration.

His workmanship, too, is apt to be excellent, as good workmanship and good materials go hand in hand.

¶ Remember, the inexperienced painter does not know how to mix lead and oil paint.

¶ Ask your painter if he is a "white-leader."

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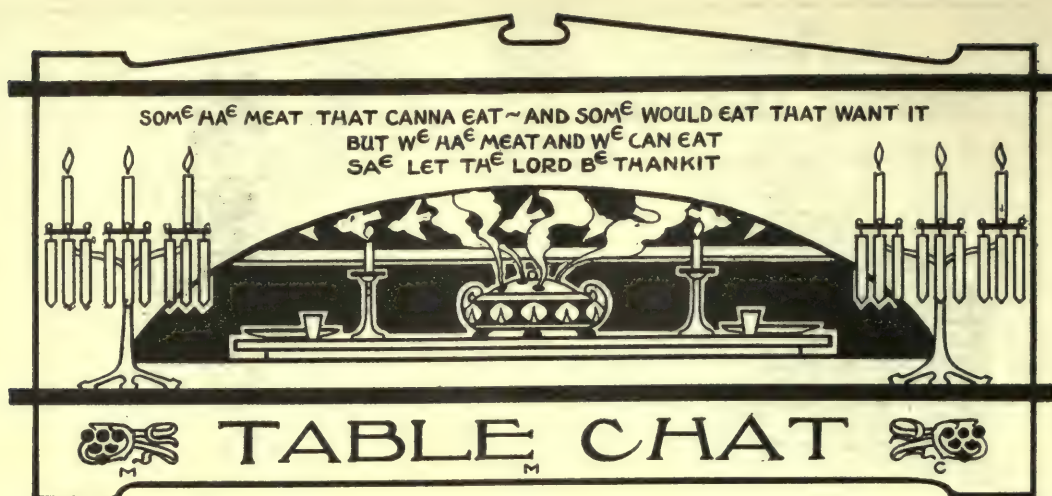


Table Linens.

One hears a good deal about the return to favor of colored embroideries for the table, but the number of them shown in the shops is comparatively small. On the other hand there is the greatest variety of lace trimmed and embroidered linens in plain white. More of them than in former seasons are in eyelet embroidery, used by itself without other work, except the scalloped edge. They are very durable, and for ordinary use less pretentious than the lace trimmed ones. In embroidering them for one's self, care should be taken to select a firmly woven linen, as otherwise the edges of the eyelets are likely to pull out. Ten cents a yard in the price of the linen may mean a great saving in durability.

Where color is used it is apt to be in the form of shading to solid embroidery in white, oftener in pale green than in any other color, although grayish blue dots are often added to a piece of linen with lace insertions, to be used with blue china. Certainly the old fashion of using bright colored centers and doyleys with any sort of china has entirely disappeared.

A pretty idea for finger bowl doyleys is to copy the pattern of the dessert plates or after dinner coffee cups. If these are of flowered china, the principal motif of the decoration can be copied, worked at one side of the small doyley. Or a solid band of lemon yellow, apple green, or turquoise blue, matching that on the china, can be embroidered just

inside the lace edge of the doyley. The exceedingly fine lace, in narrow widths, sold by the Syrian women, is a satisfactory edge for these tiny doyleys. Or a narrow gold lace may be used, but it must be taken off when the doyleys are washed.

Making Salads on the Table.

It is a pleasant custom at an informal dinner or supper to dress the salad on the table. If you happen to have one of the sectional dishes, used for hors d'oeuvres, you can divert it from its original purpose, filling one section with chopped whites of egg, another with the yolks run through a press, a third with tiny onions, sliced, the fourth with shredded celery. The salad bowl of crisp lettuce hearts stands in front of you. At your right hand is a small bowl and all the ingredients for the French dressing. Beat the oil and vinegar and seasoning to a thick emulsion, using three times the quantity of oil you do of vinegar. Empty the contents of the sectional dish into the salad bowl, stir in the dressing and a delicious salad is ready for the maid to pass.

Salad in Shells.

In the department store groceries you can buy pastry shells of all shapes and sizes, from the tiniest timbale to those five or six inches in diameter. While these are intended primarily for vegetables and various creamed mixtures, they are nice for the salad course. You may fill them with chicken, shrimp or lobster, dressed with a mayonnaise, or

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Table Chat—Continued

with a highly seasoned cream cheese. With the latter filling, set the shells on a bed of lettuce leaves and pass a French dressing in a silver pitcher. Setting your pitcher in a coaster will tend to keep the cloth free from oil stains, which are rather nasty to get out.

If one is out of range of the big shops, satisfactory pastry cases can be made by cutting long strips of puff paste, rolled as thin as possible, and winding them around horns of buttered cardboard, browning them delicately in the oven. When they are cold the horn of cardboard will slip out easily. Inspection of what bakers call a cream roll will give the *modus operandi*, but the paste should be as thin as possible.

Pastry Cases for Dessert.

When pastry cases are used for serving different sorts of dessert, all sorts of delightful combinations are possible.

When strawberries or raspberries are scarce, mix a few with whipped cream, mashing and sweetening them first, and fill the shells, or use the fruit alone without the cream.

Old fashioned lemon honey is another filling, made by cooking the juice and rind of a lemon, a cup of sugar and a beaten egg, until they thicken, adding at the last a bit of butter.

Or make a stiff arrowroot custard, flavoring it with bitter almond, strong coffee extract, or orange, or stirring in enough grated chocolate to make it dark. Another filling is a stiff wine jelly broken into small pieces and put into the shells. Still another is whipped cream mixed with crushed macaroons and chopped walnuts.

In Asparagus Time.

There is a woeful ignorance as to the proper way to serve asparagus. The only satisfactory way to eat it is in one's fingers, but how is one to do so decently if the whole thing is covered with a more or less sticky dressing? As for the toast

so many people insist upon, it is a relic of the days when people cut up the vegetable with a knife. Serving most things upon toast is a custom more honored in the breach than the observance. It is best limited to small birds.

If you want to have asparagus at its best have it carefully drained and put onto the table at the last minute, passing with it a Hollandaise or melted butter sauce, not a cream sauce. If you do not want to bother with a sauce, which is quite conceivable, lay the stalks very evenly upon a platter, buttering the green ends liberally. The dishes which come specially for asparagus are so useful that it is a pity they are almost always so exceedingly ugly. The very worst German taste has been exercised to make them superlatively impossible to anyone of even ordinary good taste.

Asparagus Soup.

In cooking asparagus, after the stalks have been trimmed to a convenient length, have the cut-off ends cooked as well. Do not use more water than is necessary, strain it and set it away until the next day. Boil it up, add a thickening of butter and flour, a cup of milk, pepper and salt and a lump of butter, and you have an excellent soup at slight expense.

For a summer luncheon, cold asparagus, with a mayonnaise dressing, and canned salmon is a good combination. With hot rolls, coffee and fruit it is quite good enough for even the expected guest.

Bisque Figures.

The latest French conceit in the way of table ornamentation is the bisque figure, perhaps nine inches high, representing a lady in the court costume of the seventeenth century. These figures are set at different points on the dinner table, alternating with the *bon bon* dishes. Of these latter, the newest are tall and rather large, shallow trays mounted on a tall standard, and of cut glass.



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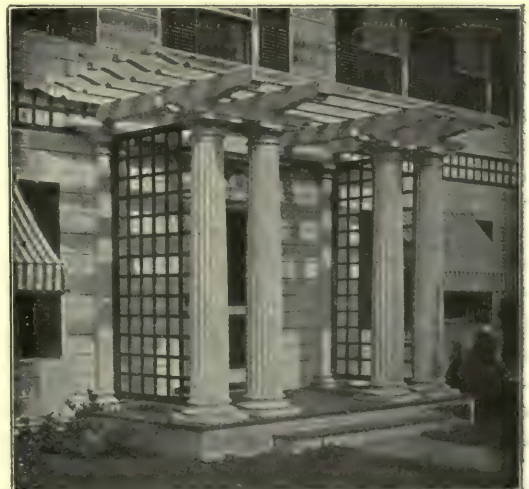


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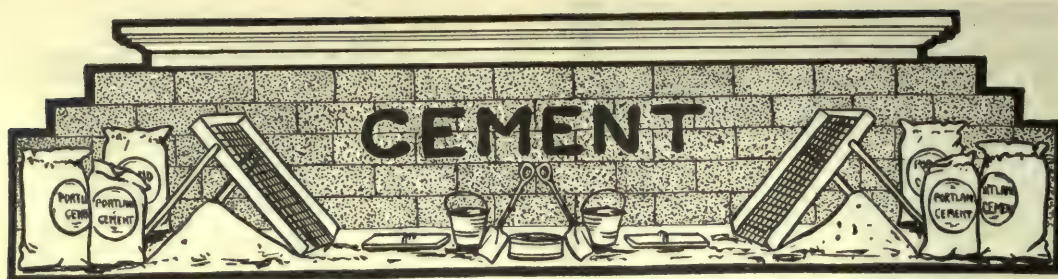
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Press Bulletin.

EFFORTS are being made in all parts of the country to promote the use of solid reinforced concrete in residence construction. This branch of the cement industry has been much slower in development than the others for architects and contractors have been slow to realize the wonderful possibilities of this adaptable building material. This type of construction approaches nearer to the ideal than any other, for a concrete house offers many advantages over every other form of construction. It can be built to conform to any builder's idea of a beautiful design besides possessing the advantages of fireproofness, permanency and extremely low maintenance expense. Artistic effects can be secured both in interior and exterior decorations which are impossible with any other building material. All of the interior trim may be made of concrete and the novel effects secured in this manner possess an atmosphere of refinement not obtainable with anything but concrete.

For the purpose of furthering concrete residence construction, the Pittsburg Architectural Club conducted a competition for securing designs of a suburban concrete residence and garage, using cement construction wherever possible. The competition was open to practically all of the architects in the country and prizes amounting to \$500.00 were contributed by the Universal Portland Cement Co. The designs are at present being exhibited at the Fifth Annual Art Exhibition at the Carnegie Institute Galleries at Pittsburg, and will probably be published later in booklet form by that Company.

Reinforced Concrete Helps Steel Industry.

Reinforced concrete construction has been a benefit and not an injury to the steel industry, according to an editorial discussion of the subject in the Iron Age. The statement is based on reports from the important bar mills, which made their largest output in June and July, although steel mills generally are not running at full capacity. This condition was due to the fact that from a quarter to a third of the production has been steel for reinforcing concrete, much of which commanded high prices because of the diversity of length of the bars, the various chemical requirements and the special rolls that have been needed in some cases. There has also been a rather large business in wire fabric and steel lath, due solely to the demands for such products for concrete. It is gratifying to see this estimate of the relative positions of the reinforced concrete and steel interests in a journal so thoroughly identified with the latter. A great deal of apprehension has been aroused unnecessarily among structural steel contractors by the unwarranted statements of concrete enthusiasts. There is a neutral land where both will always be competitors, but it has been apparent for some time that reinforced concrete is mainly a competitor of timber and brick, and that the steel-cage structure was not threatened in a serious manner by the new method of construction.

Reinforced Concrete as a Fire Resistant

A short time ago there occurred in Dayton, Ohio, a fire which gave an opportunity to test reinforced concrete as a fireproof material. It occurred in a factory where motor cars were made. The main portion of the building was of mill construction and five stories and basement adjoined by a reinforced concrete building, U-shaped in plan and six stories



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FACTORS

Ambler, Pennsylvania

Cement—Continued

and basement in height. The two buildings were practically made a continuous unit, as the walls of the brick building served as the boundary of the concrete building on the open side of the U, communication being afforded between the two buildings by doors on each floor. When the fire department arrived, the fire had extended over the entire fourth floor of the concrete building. The contents of this floor were destroyed, but the building escaped with slight damage. Through the absence of fire doors and the inability of the department to withstand the intense heat and smoke, the fire was communicated through an opening to the adjoining five-story brick building and was confined to the two upper floors.

The report of the chief of the Dayton Fire Department brings out some suggestions as to reinforced concrete construction, from which the following is taken:

"First: That the reinforcing steel should be covered with at least two inches of concrete, because the fire, having penetrated the lower inch of concrete, would have affected the strength of the structure had it not been for the rigidly attached diagonals.

"Second: That the finishing cement surface should be put on when the floor is being laid, thereby forming a solid mass; because the finished surface was destroyed wherever the heat was intense, the slab underneath being uninjured.

"Third: We were hampered greatly in handling our ladders and several of our firemen had a very narrow escape from being injured or possibly killed by falling sashweights, and we were compelled to force into the buildings all window frames that had not already fallen before we could use our ladders to advantage. I would suggest that in the construction of a building an iron pipe be imbedded in the concrete for the weights to fall into, in case the window frames are destroyed by fire."

Concrete Houses in Quake Districts.

The village of Favellani in south Italy was entirely rebuilt in reinforced concrete after the earthquake of 1905, and its houses, as well as several of those in Messina of the same material, were found to have escaped the late disaster. An Italian engineer, M. Danusso, finds that reinforced concrete buildings hold together longer and fall but slowly, so that the dwellers have time to escape. The shock produces bending and cracking at first, which gives warning of the disaster. Cellars should not be used, according to the principles he deduces for construction, and a smooth cement surface on the soil is best as a platform for building the structure. He thinks that one or two stories should be the limit. M. Cesare Pesenti, another Italian engineer, prescribes separating the building completely so as to make it independent of the ground platform, resting on it simply, and this with as small a surface as possible of contact between the building and the platform, so as to allow for displacement and to deaden the vibration.

The Cracking of Floors.

The cracking of floors is so common an occurrence that it has come to be looked upon as almost, if not quite, inevitable by the average home owner, but in many instances it can be prevented by the exercise of proper precautions. The excuse given in almost every case is, that it is due to the "settling" of the building. As a matter of fact, 99 cases out of every 100 of cracked floors are due to the quality of the cement used in laying them, even when no adulteration has been made by added lime. In very many of the cements now on the market, a certain amount of shrinkage is developed in its use, and some shrink very much more than others. This fact should be kept in mind when purchasing cement for the laying of floors, and if the proper kind is used there will be a wonderful diminution in the number of cracked floors.

The Home Beautiful

Many people imagine they are too poor or have not time to keep their homes a credit to the neighborhood. Shrubbery costs almost nothing if bought when small. Flowers practically nothing, and a little paint goes a long way.



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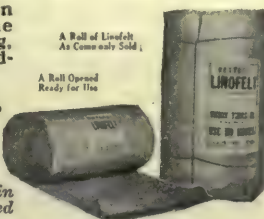
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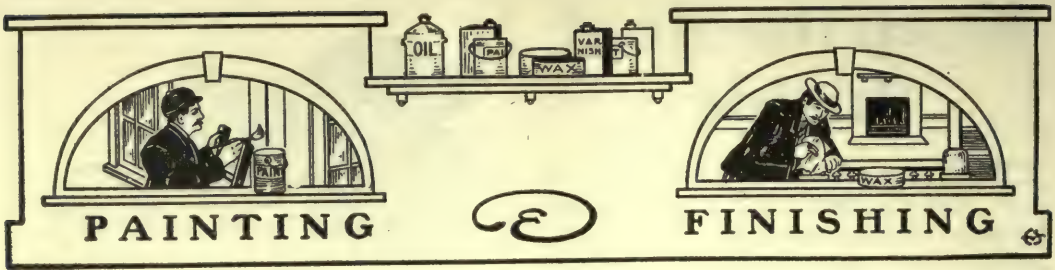
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How to Protect Structural Metals

Courtesy of O. C. Harn

(Continued from the April Number)

Formulas.

PRIMING AND BODY COATS.

No. 1.—Pure Red Lead Priming Coat: 1 gallon linseed oil; (1-3 boiled oil, 2-3 raw; or all raw oil with $\frac{1}{2}$ pint turpentine drier added.) 33 pounds pure red lead.

No. 2.—Red Lead Coat, Tinted: 1 gallon linseed oil; (1-3 boiled oil, 2-3 raw; or all raw oil with $\frac{1}{2}$ pint turpentine drier added.) 33 pounds pure red lead; 1 ounce lamp black in oil.

No. 3.—Red Lead Coat, Tinted: 1 gallon linseed oil; (1-3 boiled oil, 2-3 raw; or all raw oil with $\frac{1}{2}$ pint turpentine drier added.) 33 pounds pure red lead; 2 ounces lamp black in oil.

FINISHING COATS.

No. 4.—Red Lead Coat, Tinted: 1 gallon linseed oil; (1-3 boiled oil, 2-3 raw; or all raw oil with $\frac{1}{2}$ pint turpentine drier added.) 33 pounds pure red lead; 4 ounces lamp black.

No. 5.—Black Coat: A good black paint of finely ground graphite or lamp black with a small percentage of varnish added.

No. 6.—Dark Olive: 100 pounds pure white lead; 16 pounds French ochre; 46 pounds medium chrome yellow; 19 pounds lamp black in oil. (This gives the properly tinted pigment. Linseed oil and drier must be added in sufficient quantities to bring it to painting consistency.)

No. 7.—Dark Brown: 1 gallon linseed oil; (1-3 boiled oil, 2-3 raw; or all raw oil with $\frac{1}{4}$ pint turpentine drier added); 27 pounds pure red lead; 1 pound lamp black in oil.

No. 8.—White Gloss Finish for Exterior: $3\frac{1}{2}$ to $4\frac{1}{2}$ gallons raw linseed oil; 1 pint pure turpentine; 1 pint pure tur-

pentine drier; 100 pounds pure white lead.

No. 9.—White Gloss Finish for Exterior: (Slightly flatter than No. 8.) $2\frac{1}{2}$ gallons linseed oil; (1-3 boiled oil, 2-3 raw oil or all raw linseed oil with $\frac{1}{2}$ pint turpentine drier added); 1 gallon turpentine; 100 pounds pure white lead in oil.

No. 10.—White Flat Finish for Interior: $\frac{1}{4}$ gallon raw linseed oil; $1\frac{3}{4}$ to 2 gallons pure turpentine; 1 pint pure turpentine drier; 100 pounds pure white lead.

No. 11.—White Enamel Finish for Interior: 1 gallon light enamel varnish; 3 pounds pure white lead. (Break up the white lead first with a little turpentine to a thick paste, then mix well with the varnish.)

No. 12.—Ship Hold Finish: 1 gallon linseed oil; (1-3 boiled oil, 2-3 raw; or all raw oil with $\frac{1}{2}$ pint turpentine drier added); 22 pounds pure red lead; 11 pounds pure white lead.

Note.—The formulas for white finishes can be adapted to any tint desired by putting in the proper tinting material and adding thinners equal to one-half the weight of the tinting material.

Note.—When red lead is mentioned in these formulas, dry red lead is meant. On the contrary, when white lead is mentioned, white lead-in-oil, as usually furnished to the trade, is meant.

Painting the Floor of the Porch.

Great differences of opinion exist regarding the best composition for painting the floor of the porch, and as to what should be done under certain conditions. In one case where the porch faces the South, and a portion extends around the west side of the building, the owner used ready mixed oil paint, but the result was that it soon blistered and had to be scraped off. The floor was then painted with a well-known floor paint, which is sold ready for use.



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Painting and Finishing—Continued

This did not blister, but within two months it came off in flakes. The floor is of yellow pine, and the ground in its vicinity is somewhat damp, the ventilation under the porch being rather poor. The Painters' Magazine, to which the owner of the porch stated his troubles, makes these suggestions:

"We would advise you to provide proper ventilation, if possible, under the porch floor, because we think the original blistering was due to the dampness under the floor. That the second painting flaked was not unlikely due to inferior varnish in the paint and an insufficiency of oil to bind it. Before applying more paint the floor should be well cleansed and permitted to dry thoroughly. Then a thin coat of pure lead in oil, tinted to nearly match the finish desired, and thinned two parts raw linseed oil to one part turpentine and a very little drier, should be applied and well rubbed into the wood. Allowing this to become hard two coats of a high grade exterior floor paint should be given, each coat carefully brushed out, or a first-class ready-mixed house paint that is somewhat reduced with turpentine could be used in place of floor paint.

"If you prefer to mix your own paint we would suggest that you mix white lead and zinc in equal proportions, tint to color desired and reduce for application with six parts raw linseed oil, three parts turpentine and one part drying japan. This will do for both second and third coats, but for the latter coat the addition of a small portion of hard drying varnish would be an improvement."

Wax Finishing.

In wax finishing hardwoods, use a paste filler and shellac varnish to get a good surface. Of course, the wax may also be rubbed into the unfilled wood, but that gives you quite a different effect from the regular wax polish, says a correspondent of Wood Craft. With soft

woods you first apply a stain, then apply a liquid filler or shellac, according to the quality of work to be done. The former for the cheaper job. The usual proportion of wax and turpentine is two parts of the former to one part of the latter, melting the wax first, then adding the spirits of turpentine. For reviving or polishing furniture, you can add three or four times as much turpentine as wax, all these proportions to be by weight. To produce the desired egg-shell gloss, rub vigorously with a brush of stiff bristles or woolen rag.

Painting a Dwelling with Tuscan Red with White Trim.

In a case where it was desired to paint a house with pure Tuscan red for the body and the trim white lead the question was asked if the painter should thin the Tuscan red with linseed oil the same as he would white lead, and what should be the proportions.

In reply to the query of its correspondent a recent issue of The Painters' Magazine said: If the job is one of repainting, we would suggest that you thin the Tuscan red, which, we suppose, you buy ground in oil, as follows: To 10 lb. Tuscan red in oil, after beating the same to an even consistence, add $\frac{1}{2}$ pint of best brown japan, 1 pint of turpentine and 1 gal. pure raw linseed oil for the first coat, applying the paint evenly and well brush out.

For the finish, mix in same way, but use only one-half as much turps, but be sure that the first coat has thoroughly dried.

If the job is a new one and the wood has not yet been primed, would suggest that you use pure white lead tinted with lampblack to medium lead color as a first or priming coat, thinning the tinted lead with 5 qt. of raw linseed oil and 1 gill of liquid drier for every 25 lb. of the lead. Over this priming apply your Tuscan red in the same manner as for old work. Not knowing the brand or quality of Tuscan red you propose to use, we cannot give you more explicit directions for thinning. Pure fire-boiled linseed oil might be better for thinning the red for the finish than raw oil, on account of holding its gloss longer.

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Short-Cut Furnace Rules Often Hurtful.

THE warm-air furnace, says Master Sheet Metal Workers Journal, is a mighty important piece of household furniture in cold weather. When the plant is installed it is put in to stay for years, not a few days. Some individuals, posing as authorities, have remarked that the furnace dealer wants (not needs, mind you) some rule of thumb to determine quickly (and mostly regardless of accuracy) the size of furnace required. This is a very bad doctrine to advocate. The importance of the warm-air furnace in the house demands that the dealer shall accurately determine the size of furnace, piping and registers. To hastily arrive at these results by an inaccurate, short-cut rule, simply because it saves a few figures, is positively wrong and those who say it is this kind of rule that the dealer should have are working an injury to the furnace business. If the dealer is not willing to take the time to do the necessary accurate figuring, as to the cubical contents, glass and wall exposures, furnace sizes, etc., then he ought not to install warm-air furnaces. Steam and hot-water plants are not installed on any such flimsy, slipshod rules.

Accurate calculations are being rapidly applied to warm-air furnace heating. The furnace dealer is entitled to all the technical knowledge necessary in simple form. Heretofore he has never had it. Strange to say, there are those now who declare he don't need it, and would, if they could, withhold it from him.

Noises in Pipes.

Summing up many contributions to Domestic Engineering from practical men in the trade concerning the causes of noises in pipes and how to overcome this difficulty, the following resume covers the matter in a nutshell:

Cause: High pressure of water. Rem-

edy: Substitute tank pressure; partial remedy, casing in the pipes and packing in tightly either mineral wool or asbestos fibre. Another remedy is to put in a pressure regulator near the cellar wall where the water supply enters the building and still another is to put discs at each one of the cocks on the premises. It is claimed that these prevent water hammer and splash as well as noise. Another remedy is the use of air chambers on the hot and cold supply to the fixtures.

Cause: Partial stoppage in the service pipe by an obstruction such as galvanizing partly filling the pipe and causing vibration when water is passing through with great velocity. Remedy: Take out pipe from main to the point where first branch is taken off and replace with a good smooth-bore pipe.

Cause: Too great vibration caused by velocity of the water. Remedy: A bit of rubber packing used between joists or studding or between pipe and hangers. The water pipe should not be allowed to rest against soil or heating pipes, as they will carry the sound.

Cause: Loose packing on faucets. Remedy: Do not use rubber packing; use fibre or hard leather.

Cause: Corporation stop at main too small or choked with sediment. Remedy: Examine it and repair defects.

Cause: Service pipe too small, ends not reamed out. Each successive end with burr telephones the noise ahead. Remedy: Self-evident.

Cause: Air-chambers become waterlogged and each stroke of the faucet can be heard distinctly. Remedy: Draw off the water from the building.

Loose washers in fixture faucet may be the cause of the noise.

If noise has developed recently the cause has recently developed also and is probably a loose part in a faucet or valve.

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Heating and Plumbing—Continued

Pipes fastened to wood should have some non-conducting material between.

Risers not well anchored with non-conducting material between them and wood would cause vibration of the entire pipe.

Stopcock may be partly closed. After opening it wide there may be no noise.

Supply pipe may be too small so that when a number of faucets are opened the water must necessarily travel through the small pipe at a high velocity.

If when the stopcock is shut off the noise ceases, look for a leak between the stopcock and the main.

Air Locks in Water Pipes.

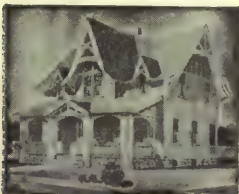
The effect of the sagging of a lead pipe between its supports, is that air will collect in the high parts of the bends, and will form air locks. These air locks will greatly impede the flow of water through the pipe. If the pressure is light, and the sags are many, they may stop the flow entirely. A long waste pipe suffering from these conditons might utterly prevent the passage of water and give the impression that it was choked by refuse, while, as a matter of fact, the real trouble was due wholly to the air locks which had formed.

If air has accumulated in the upper bends, the water will rise on one side of the bend and slightly compress the air which has been entrapped at different points. The air will depress the water on the other side of the bend and raise its surface at the next upper bend. The difference in level between the surfaces of the water on the opposite sides of a bend, is the measure of the resistance which the air in that bend offers to the passage of the water in a steady flow. The effects of the air accumulation are chiefly observed in low pressure systems, such as those which are supplied with water from house tanks.

The reason for this is, that the pressure due to the head between the air locks and the tank is usually too low to force the air out of the pipe. It is different when the system is under high pressure, because then the pressure is generally sufficient to force the air out of the pipes, with the water. A common cause of air lock in a building is the running of a lead hot water pipe over the floor beams for a considerable distance, the pipe not being supported uniformly throughout its entire length.—Exchange.

Insulating Steel Water Pipes.

One of the disadvantages found to be connected with the use of steel pipe for water conduits and other purposes is the danger from electrolysis, since, owing to the thinness of the shell, a small amount of pitting is a serious matter. An effort to overcome this has been made in the case of the two 30-inch steel water pipes which are to be laid under the Connecticut River on the line bringing the Little River supply to Springfield, Mass. In this case the lines will be of steel pipe for the entire length, except that at each end the pipe will be a length of wood-stave pipe, which will act as an insulator to prevent stray electric current from entering the section of pipe line between them. A gap of 3 feet is left in the steel pipe line where the wood joint is to go, on each side of which a casting is attached to the pipe, on the outside surface of which are cast three beads spaced about 5 inches apart. The wood staves, assembled so as to include these castings, are forced down onto them by eight welded hoops of 1 by 4-inch steel, which are tightened up sufficiently to cause the beads to sink into the staves and at the same time to bring the staves into close contact to prevent leakage between them. The staves are 2 inches thick at the ends and 4 inches at the middle.



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are heating hundreds of country homes of prominent people with from 20 to 40 rooms in high altitudes, and exposed to high winds, so satisfactorily that many builders of other homes have considered Kelsey Heating only.

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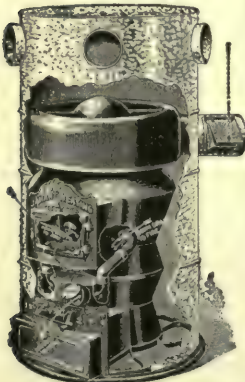
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SPLINTERS AND SHAVINGS

A Correction.

THE following letter is self explanatory and is published in that spirit of fairness which should characterize a magazine wishing to afford a hearing at least, upon matters about which there may be a difference of opinion.—Ed.

Editor of Keith's Magazine,

Dear Sir:

We have before us the current issue of your valued magazine, and note with interest in your Department entitled "Questions Answered on Construction," the inquiry of "H. B." on "The Quality of Sand-Lime Bricks," and your reply thereto.

We beg leave to correct some of the statements made in the above mentioned article.

We note in the first place your statement that Sand-Lime (or Silicate) bricks have the fault, when used in residence work of being "More difficult to lay than clay bricks because they do not have the same suction." In this connection we wish to call your attention to the following extract from a report made Feb. 27, 1908, by Mr. J. P. Whitney, of the Whitney Engineering Co., Tacoma, Wash., viz.:

"As compared to clay brick they will absorb far less moisture, their appearance is superior to the very best clay brick on the market. They can be made into any color desired. They will stand a far greater fire test and not crumble. On account of there being no warped faces to the brick they are much easier laid. They can be broken with a trowel square across, thus eliminating waste. Their adhesive qualities to mortar are wonderful. They are clean, sanitary and free from effervescing, so common to clay brick."

Furthermore, our experience of nine years in manufacturing Sand-Lime bricks for residence as well as other work, has proved conclusively the truth of the above statement, especially as regards

the adhesive qualities of these brick to mortar.

In the second place, we wish to take exception to the following statement in your article, "In factory buildings they have been a failure because the vibration from machinery and the slamming of heavy doors causes the mortar to loosen." Enclosed herewith is a printed folder showing the new mill of the Clarke Textile Co., at Saratoga Springs, N. Y., in which over 500,000 Sand-Lime bricks, made under our process, were used, and have proved satisfactory in every respect. In this particular case the vibration of the mill machinery is very severe, yet this has not injured the brick work in the slightest degree.

Lastly, referring to your statement that "The best lime for the purpose is rich in magnesia, which must be fresh." We wish to say that the first part of this statement shows that you must have been misinformed as to this point, for, as a matter of fact, it is absolutely impossible to produce a high grade brick by using lime rich in magnesia, as such a lime is very slow to hydrate, and for our purpose it is necessary to have a very pure, fresh, quick calcium lime.

We also enclose herewith a partial list of the buildings in New York City, including residences, office buildings, municipal buildings, etc., constructed out of Silicate brick made under our process, and we wish further to call your attention to the fact that the new Hammerstein Opera House in Philadelphia, Pa., is faced entirely with our Silicate brick.

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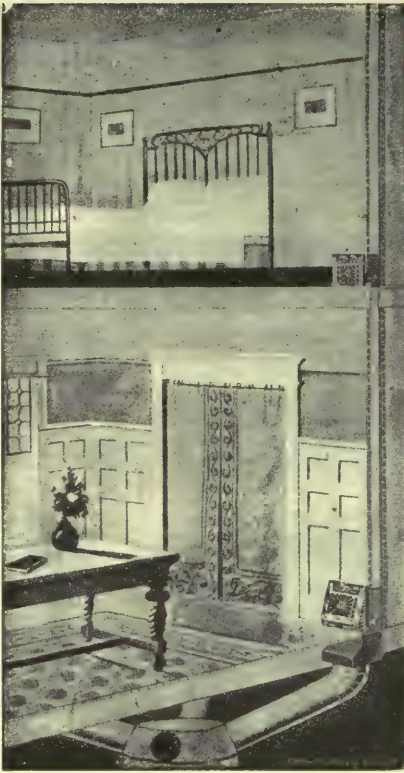
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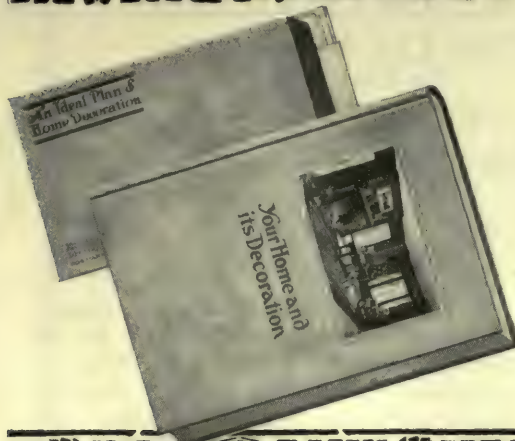
Splinters and Shavings—Continued

"A person who has settled upon and continuously occupied unsurveyed lands within a National forest before its creation and is at the present time occupying such lands in good faith and is in all respects complying with the homestead law, has the right to include within the lines of his homestead 160 acres after the land is surveyed. Therefore, if the land is occupied for agricultural purposes, and is not more valuable for its timber than for such purposes, and there are no circumstances which would in the opinion of the District Forester tend to discredit the bona fides of the claimant, he should be allowed to make application for the patenting of such lands under the Act of June 11, 1906, and the examination for listing should be made with a view of listing 160 acres of land where possible. The tracts as listed should conform so far as practicable to the form of the public land surveys. The listing of lands as above should not in any way govern the determination of the total area or amount of non-cultivable land listed for applicants under the Act of June 11, 1906, who were not residing upon the land before the creation of the forest.

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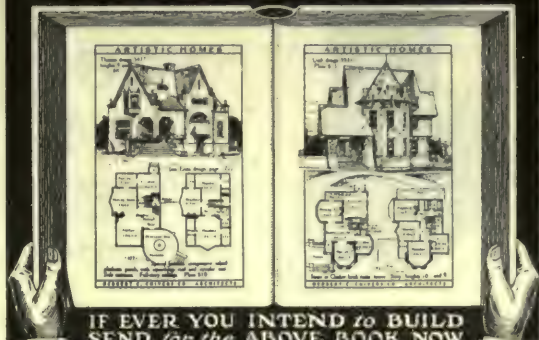
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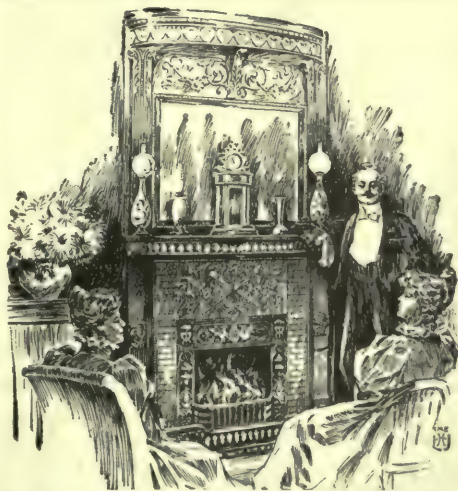
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Mary Cary.

By Kate Langley Boshier.

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The child's devotion to her teacher and her successful matchmaking, are delightful passages of the book. The discovery of her parentage and the marriage of her beloved teacher make a happy conclusion. It is a bright, wholesome little story. Harper and Brothers, New York, Price \$1.00.

The Lantern of Luck.

By Hudson Douglas.

Oswald Ingersoll is a young New York club man who suddenly loses his fortune through the ill-advised management of his partner. Ingersoll pays out every dollar of his fortune to satisfy the creditors. The girl to whom he is engaged is forced by her guardian to slight him publicly and announce her acceptance of his rival, a man with whom the guardian is secretly engaged in a business venture, that was largely responsible for the failure of Ingersoll's firm. The young people plan to elope but fail. The girl is carried off by her guardian on his yacht. The lover starts in pursuit. All are shipwrecked and are picked up by a ship whose captain is in the pay of the rival, who is also on board. The captain's ward, a beautiful girl of unknown parentage, aids the lovers and they eventually arrive at Nicazuela, an imaginary Central American republic, whose President is in league with the rival and is about to leave with all the money and securities he has stolen, leaving all his associates in the lurch. The story deals largely in love, intrigue, and a pacific blockade of the seaport town of Nicazuela. It is intensely interesting and eventually ends happily in Paris amid general satisfaction of the fittest survivors. W. J. Watt & Company, New York, Price \$1.50.

KEITH'S MAGAZINE

ON HOME BUILDING

WITH WHICH IS CONSOLIDATED

The Journal of Modern Construction

MAX L. KEITH, Publisher,

525 Lumber Exchange Minneapolis, Minn.

Eastern Office: No. 1 Madison Ave., New York City

Contents for June

	Page
EDITORIAL - - - - -	410
THE UNUSUAL LOT - - - - -	413
THE SAD TALE OF THE FRONT DOOR - - - - -	416
A GARDEN ROOM - - - - -	417
PROBLEMS IN CONCRETE - - - - -	420
A SUBURBAN HOME - - - - -	424
NOTES ON GARDENING - - - - -	428
DESIGNS FOR THE HOME-BUILDER - - - - -	430

DEPARTMENTS

DECORATION AND FURNISHING - - - - -	442
ANSWERS TO QUESTIONS ON INTERIOR DECORATION - - - - -	448
HOUSEHOLD ECONOMICS - - - - -	452
TABLE CHAT - - - - -	456
CEMENT - - - - -	460
PAINTING AND FINISHING - - - - -	464
ANSWERS TO QUESTIONS ON CONSTRUCTION - - - - -	468
HEATING AND PLUMBING - - - - -	472
SPLINTERS AND SHAVINGS - - - - -	476
GLIMPSES OF BOOKS - - - - -	480

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"THE FORTUNATE OWNER, LIKE PETER PAN, HAS HIS HOME IN THE TREE TOPS."

KEITH'S MAGAZINE

Vol. XXIII

JUNE, 1910

No. 6

The Unusual Lot

By Kate Randall



"A LOT WHICH WE HAD ALL CONSIDERED IMPOSSIBLE."

ABOUT the time one thinks the subject of bungalows thoroughly exhausted, some genius buys a lot we have all considered impossible, and builds a bungalow harmonizing so perfectly with its unusual surroundings that every one envies him the scorned lot and his artistic sense of possibilities. This artistic sense is very valuable in a new town, particularly if the town is in the foothills, or any broken country. One whole section of our home

city, Pasadena, Cal., has lain unimproved for many years because the lots did not seem to have any regularity. One sloped to the east, and its neighbor to the south and west, and, perhaps, the next one was quite level, but an artist took one of the least promising and showed what could be done, and now the whole section is full of the most picturesque homes.

I remember particularly one lot, bought because it was cheap. A very shallow lot on the crest of a steep little hill;

nature had done her best to make the place charming. The view from the back was beautiful, and the hillside covered with fine trees, but the new owner was a very "level-headed" man and so he graded and filled. He did not make the lot level; that was quite impossible, but he did make it ugly and commonplace, and he sacrificed several of his fine trees. A lot identically like his, on the same crest, was bought by an artist, who set his house just where it commands the finest view, regardless of grade. He utilized the level as far as it was level, and then built right out into space, with a high cobblestone basement below, which probably cost no more than the other man's grading and filling, and above this are his living rooms. One whole side of the dining room is practically of glass and like Peter Pan, the

fortunate owner has his home in the tree tops. One of the homes illustrated shows how a clever builder utilized a very narrow ridge sloping steeply each way, and unique in its combination of trees. At the south, where one looks down on a grove of live oaks, the house is low, but at the back, where great sycamores cover the hill and the banks of the stream below, the beautiful concrete house has a high basement. The seclusion is so perfect on the small high, that from the road below, the beauties of the garden and court about the house are not seen—a low balustrade heavy with ivy surrounds it—and all shade loving plants flourish in the cool shade.

One lot has a fine tree in the center, just where the everyday man thinks he must set his foundation and the tree comes out—but the genius when he gets



"A NARROW RIDGE SLOPING STEEPLY EACH WAY AND UNIQUE IN ITS COMBINATION OF TREES."



"A SHALLOW RESERVOIR LOT, TEN OR FIFTEEN FEET ABOVE THE DRIVE."

his beautiful tree, lays out, first of all, a court of honor about it, here the family gathers at all hours. It is the heart of the home, and the mere living rooms group themselves above it in the most natural manner. Or perhaps the tree is too near the front of the lot to make a court possible, but a porch clasps the great trunk, and almost no other roof than the spreading boughs is needed and indeed the court is possible even here. Build the house behind the tree, and let projecting wings form the sides of the court, open in front. One such house has wide porches on three sides and on the open side to secure privacy from the street, is built a latticed screen, covered with vines. The effect is quite charming. One house is built so near a large live oak tree that an upper porch, at the back, is ingeniously woven into the boughs, only a very few being thinned out. What an inestimable loss such a tree would have

been, both to the passersby and to the imaginative children of the family, who live in the fairy tales they read. I have in mind a most unique and artistic home on a lot that is practically one side of a reservoir. From the reservoir the hill-side slopes steeply for several hundred feet down to the banks of the river. Some seventy feet from the top a road was cut in the bank, leaving these shallow reservoir lots ten or fifteen feet above the driveway. Trees covered the whole hillside, many of them well worth saving. The owner built a high cobblestone and burnt brick retaining wall, surmounted by a latticed fence. Stone steps were most cleverly designed, and the bungalow at the top is one that we have all seen illustrated many times. Directly in front and overhanging the retaining wall is one of the trees worth saving. Here is set the tea table where friends gather of an afternoon. Though it is directly on the

street, and one could almost drop his cup from the tea table into the passing carriage, the privacy is surprising. They sit above the passerby and look off over the road and river, into the setting sun.

Really the grading of lots as it affects existing trees is a fruitful subject for all civil engineers, and fortunately, we see more and more the work of the artist in this line where a slight deviation from the line and compass style, has left some fine tree, and we remark on the charm of the whole neighborhood, and yet we sit passively by and see the bungler fell trees at our very door, that have been our joy for half a century, because we lack

the courage to insist on some better way.

When you buy a lot—or better still, long before you buy it—study it from all sides before you touch a tree or change a level. I know of a lot where a veritable forest of young sycamores fills the back—such a lot is not for the man of straight walks and formal beds. Let him seek for himself an open lot, where he may revel in his angles, and leave the sycamores for the other man, who may positively need them as a haven of rest after a day of grind.

By a little forethought we may do some veritable mission work as well as please ourselves.

The Sad Tale of the Front Door

"Let's have a new front door,"

My wife suggested:

"This old one's marred with many a scratch,

Its broken glass has many a patch,

Our house is good, our door should match,"

So I invested.

My new front door is smooth and bright,

And best of all

Is its artistic glass, to light

Our dark front hall;

Such rare glass I ne'er saw before—

Why should my mother-in-law feel sore

At me for "showing her the door"

At her last call?

—Gertrude McKenzie.



PANELLED FRIEZE IN SHADES OF GRAY WITH STENCILED CORNERS IN GREEN AND ROSE.

A Garden Room

By Arthur E. Gleed



GARDEN room is a modification of a conservatory or greenhouse, by which it is made to serve the dual purpose of a light and airy place to grow flowering plants and also the pleasantest of sitting rooms. A conservatory is designed entirely to suit the requirements of plant life, and is not usually the place in which to make a protracted stay, owing to the excess of light and heat. A greenhouse might almost be considered the workshop of the horticulturist, where floral wonders are produced which are enjoyed elsewhere. A garden room is built on the lines of a serviceable sitting room, with the addition of many windows and properly fitted window boxes and plant stands, to serve the requirements of plant life.

A garden room should not prove costly, for fine finish or expensive furniture would be entirely out of place, in fact a certain rusticity is looked for, and an existing room could perhaps be adapted to the purpose by the addition of extra windows. An ideal garden room built onto a house is shown in the illustration. En-

tering the room from the house, on the left are two large glass doors through which is seen a vista of lawn and garden. On either side of the door is a high window, placed about four feet from the ground, and fitted with ample window boxes. The opposite wall has similar windows, as they leave useful wall space below for chairs or small tables. The end of the room is devoted entirely to a spacious bay window which has a built-in bench or shelf, the top of which is covered with green glazed tiles to accommodate a number of flower pots.

Practically no wall decoration is needed in a garden room, for it is the flowers themselves which decorate, and the best effect is got by providing a neutral background to show them to advantage. In the room illustrated the rough plastered walls were finished with flat oil paint in shades of pale gray, and the standing woodwork was stained a light gray-green and oil finished. Above the windows the bare wall was relieved by a light wooden panelling, stained gray-green, and the small square spaces at the corners of the

larger panels were filled by a primitive stencil design in shades of green and rose. A further note of color was added to the room by fitting to the top lights of the bay window and the glass doors, stained glass of simple design in tones of dull green and rose.

All the furniture in the room was either of wicker or rattan. This can now be obtained in such artistic shapes and is so comfortable for use, that it has everything to recommend it, and in its soft shades of green, brown and buff, it harmonizes perfectly with a floral or leafy background. Japanese straw mats on the oil finished floor completed what might be considered the sitting room part of the furnishing.

As flowering plants are the main feature of the room, it is necessary to provide substantial means for growing them, that they may at all times look neat and tidy. In the case illustrated the high windows were each fitted with a long box to take a row of medium sized pots, the bottom of the boxes being lined with zinc to catch superfluous water. On the green tiled bench of the bay window, ordinary red earthenware pots were used with good effect. A light trellis was built round the window on which was trained quick-growing creepers, and as these were needed as thrifty and large as possible, an ample sized box was placed at each end of the bench at the foot of the trellis, to accommodate the roots. An interesting item in the room was an aquarium placed in front of the bay window. For this a specially constructed stand was made, and in the form of a substantial table. The top was in the form of a box, and allowed for a space of about six inches round the base of the aquarium, in which could be grown ferns. By carefully stocking the aquarium with gold fish, water plants, and water snails, it was made practically self-supporting and self-cleaning, in fact, it represented a miniature water-world. A singing bird in its cage hanging from the trellis completed the bay window, making that end of the room particularly charming.

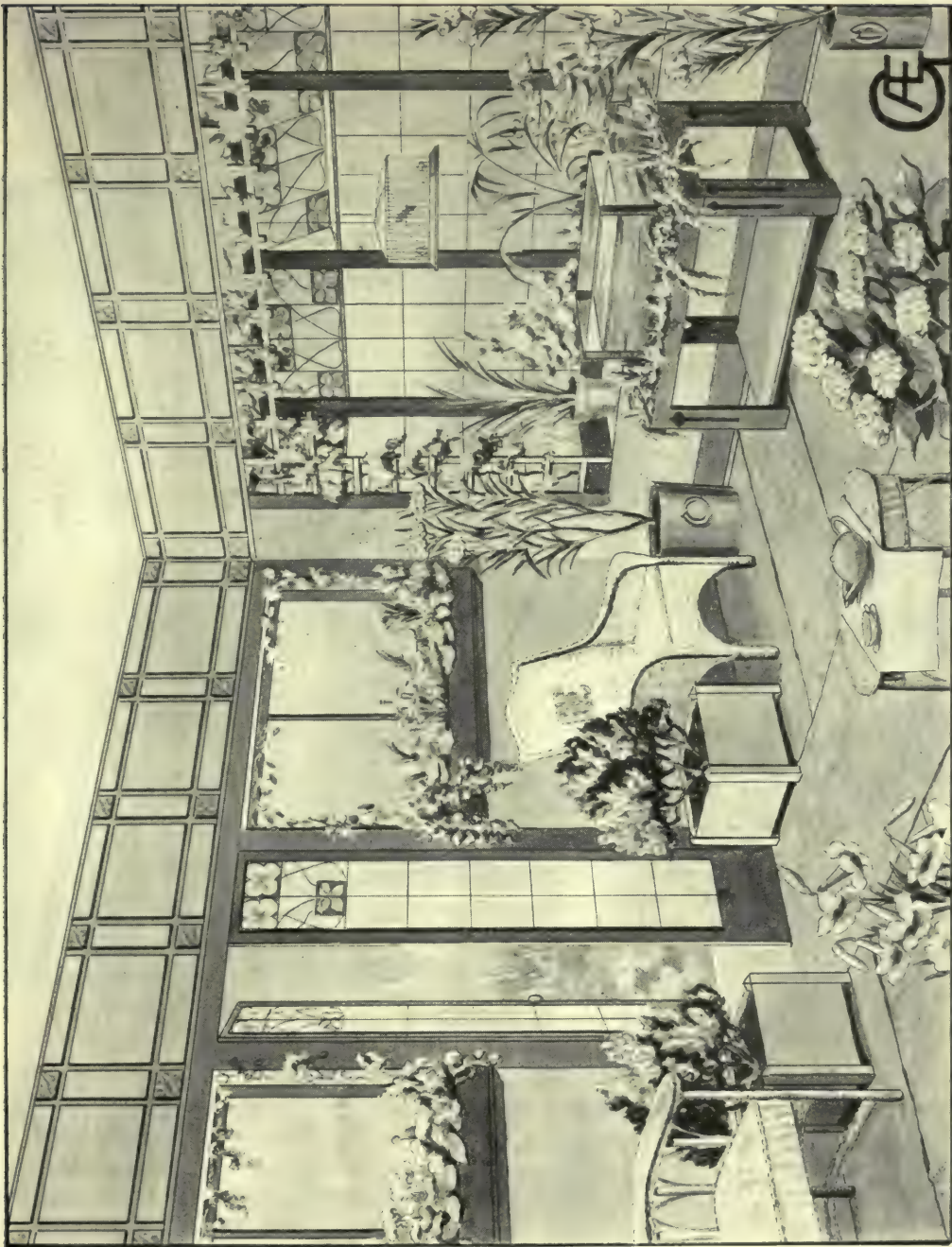
If birds were a hobby of the owner of such a room, a large cage or aviary could

be placed in the center of the room, and if mounted on a stand with plants around it, similar to the aquarium, it would be very effective.

Specimen plants about the room were provided with large boxes and tubs, which were fitted with handles for convenience in moving them. The entrance to the garden by the glass doors, was given importance by two somewhat formal evergreens, planted in large square boxes. All the receptacles for plants, where constructed of wood, were stained gray-green to match the other woodwork of the room.

Selecting the plants for a garden room should be a pleasant task for the lover of flowers. It will be advisable perhaps not to favor too much those of an exotic nature, but rather to select those which will thrive under ordinary conditions. Much might be said for many of the outdoor garden favorites, which will grow to delicate perfection with the extra attention they receive in a room. The sunniest windows must be reserved for roses, geraniums, heliotrope and tuberose. Begonias, fuschias, petunias and campanulas will thrive where they receive sunshine only part of the day. Around the aquarium, plants which like a moist situation should be planted such as ferns, cyperus, callas, and the leopard plant with its beautiful spotted leaves. Climbing plants can be used to great advantage round all the windows. An excellent one for a constant show of fresh green leaves is the German ivy or *Senecio scandens*. The plumbago with its clear sky blue flowers, stephanotis, and passion flower, are all flowering vines which will make a beautiful show against the gray wall. Oleanders, lilies, palms, hydrangeas, and hibiscus, will lend color and grace as specimen plants about the room.

It is perhaps during the seasons of fall, winter, and spring that the room will be most appreciated, for in summer the pleasantest place is out of doors. Adequate heating arrangements should therefore be provided, that an actual winter garden may be possible. Ventilation is also an important point to be considered, for at all times the room should be red-



A GARDEN ROOM.

olent with fresh air. The light, too, will need regulation, and this can be done either by means of outside sun blinds or linen curtains at the inside of the windows.

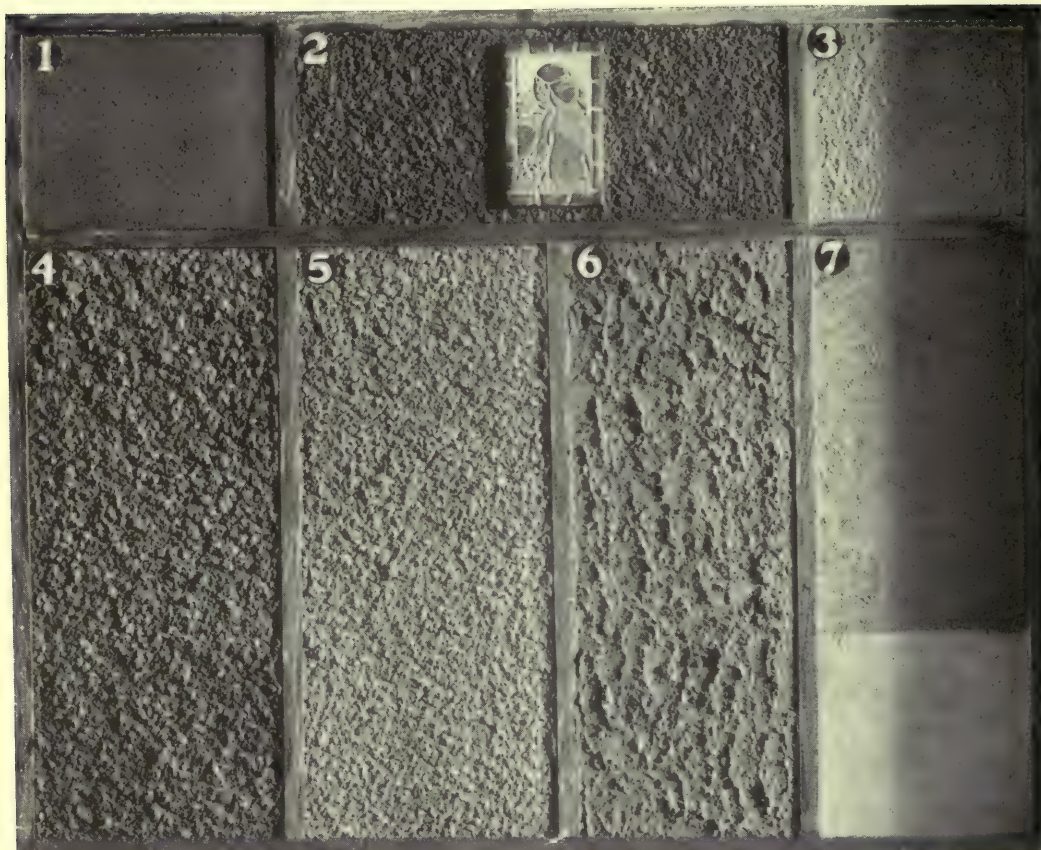
Considering that there need be no great initial expense in adapting a room to garden purposes, the resulting pleas-

ure should amply repay, and make it well worth while spending time and thought over the matter. In spring time alone the owner would find his reward, for whilst the out-door world was still half frozen, he in his garden-room would be enjoying fully matured spring blossoms and many flowers.

Problems in Concrete

By H. Edward Walker

(Continued from the April Number)



Courtesy of Johnson, Jackson & Corning
SOME CONCRETE SURFACES.

ARTICLE XVII.

Concrete Surfaces—Continued.

A PROPOS of the previous article dealing with surfaces produced upon the concrete, other than stucco, emphasizing the beauty of the contained aggregates. It is not enough that portions of the wall are of even color and uniform scale of aggregate. The whole surface should be free from any suggestion of joints between pourings, or other like imperfections. Uniformity of color is to be desired but is not essential if variations are

harmonious and sufficiently frequent to indicate intention, rather than accident. One or two variations in color on the side of a building are simply spots and blemishes and cannot be considered artistic or excusable in a first-class job.

Granolithic Surface.

This is a surface that makes it possible to produce almost any color desired. A metal frame or granolithic plate is inserted between the concrete and the surface of the form. The plates are usually made of sheet-iron, 12 inches high and 6 feet long, and are kept 1 inch away from the outside form by 1-inch

angles riveted to the face. There is a 3-inch flange bent backward on the top, on which are handles to make the plates readily movable. The plates lap when in position and shorter lengths are used to fill out the wall evenly. The concrete and the finishing mixture are poured at the same time but the latter is kept higher in the forms to prevent any of the former reaching the face of the wall. A bucket is used to pour the granolithic finish which is mixed wet. By raising the plates up, their top edge is always kept from 6 to 8 inches above the concrete. The concrete should be placed in 6-inch layers to accommodate this. The forms are taken down in from 24 to 36 hours after the concrete has been placed and the surface is washed down to remove the sand and cement from between the grits. This allows the latter to stand out and it looks very much like granite finish. For the next three days or longer as the weather requires the wall is protected from the sun and is wet down twice daily. A good method in washing down is to remove only enough of the form to require about twenty or thirty minutes work to complete and if this is done within twenty-four hours after placing, an ordinary bristle scrub-brush may be used for very rapid work.

The scrubbing becomes difficult if allowed to stand thirty-six hours after placing, or is allowed to stand after the forms are removed. A wire brush must then be used and the progress is slow. A constant stream of water should be kept running down the surface being washed and care must be used to make the scrubbing uniform, as uneven pressure will make no little difference in the appearance of the finished surface. White cement and crushed marble make a beautiful white surface. Marble dust and ordinary cement produce a light gray. Crushed red granite gives an attractive permanent color.

Coloring Matter in Cement.

It requires considerable knowledge and experience to properly color cement. The early attempts of the most able men in the local field were not at all satisfactory and the use of pigments was particularly unfortunate. For this reason work in communities where the work must be largely experimental upon the part of

the local cement worker, should be very carefully studied by the owner from samples of generous size. The cement mortar appears several shades darker when wet than after it has dried out. Strong colors may be obtained by mixing five pounds of coloring matter with a bag of cement as follows:

Raw iron oxide will give a bright red.

Roasted iron oxide will give brown.

Ultramarine will give bright blue.

Yellow Ochre will give from buff to yellow.

Carbon black or lampblack will give gray to dark slate.

Manganese dioxide will give black.

The latter should be in proportion of eleven pounds of color per bag of cement.

Carbon black and red iron ore in equal parts gives dull reds. One-quarter to one-third of the above quantities will produce much lighter shades. Great care should be taken with proportions to produce the exact shade. Even if the exact quantity is known it may be a difficult matter to "match up" a shade. For this reason it would be well to mix enough cement sand and coloring matter in the first place to provide for the whole job, thus producing uniformity of tint on all sides of the structure. The aggregate can be kept dry until ready for use, at which time the water can be added. In this way what is needed at a given time can be used, but the remainder will be of the same proportions and may be expected to produce the same results.

The addition of mineral colors to cement causes a loss of strength, but as it is applied to the surface only, the loss is unimportant. For a surface layer about $\frac{3}{4}$ of an inch thick, the expense of coloring will vary from half a cent to two cents per square foot.

Surfaces Applied After Concrete Has Set.

Some criticism has been made of surfaces produced upon the concrete that are not part of the original pouring, on the plea that they are a sham and therefore not truly artistic. Some of the finest furniture that has been produced is open to this objection, yet it is accepted everywhere as a proper and practical method of construction. Some very beautiful surfaces can be produced by using aggregates of different sizes ap-

plied by special methods. Uniformity of surface and texture is something that can be better controlled when these methods are employed. The aggregates can be more carefully graded and their exact position determined better than when placed at the same time as the concrete.

Crushed limestone, gravel and even crushed brick is used for aggregates in dashed cement surfaces. The limestone is soft and brittle, making it hardly ideal for the purpose. Brick, if sufficiently hard, has been used with good results, the color often being an aid in producing the general tone of the surface tint.

Gravel is the most satisfactory, in the judgment of the writer, it being very strong, procurable in any size and has color and individuality in its component parts. Washed sand and gravel is a recognized product, many companies making a specialty of this in all parts of the United States at this time. Gravel that is free from clay and dirt, of even sizes and in many colors can be obtained for dashed work, producing a surface of surpassing beauty. The method of applying surfaces of this kind is shown in the illustration. At the top in the wire lath, used only on veneered structures, next is the scratch coat which is applied in any case no matter what the wall construction, and lastly the finished coat, illustrating the pebble dash finish. This is thrown on from a paddle or with a sink brush. When the brush is used the material may be taken from a pail, but for a paddle it is better to provide the workman with a receptacle shaped like a mitre box with one end closed. The paddle will more readily take up its supply from this than from a pail. The mixture should be just wet enough to spatter well without running down when it is thrown on. It requires considerable practice to produce a nice even texture over a large wall surface. Several different textures are shown. Number 1 is a simple sand finish treated with a float. This is used where a comparatively smooth finish is required and is viewed from a short distance.

Numbers 2, 3, 4 and 5 are all surfaces of the same kind, applied in the same manner but using different sized aggregates. Number 6 is produced with a

trowel by suction. Lifting the trowel from the surface in the wet cement draws it outward, giving an unusual and effective surface. Number 7 is an effect obtained by stippling and is very pleasing for work seen close at hand. At a distance, however, it could not be distinguished from the surface shown in No. 1.

These surfaces have been painted with specially prepared paint and have a very soft and pleasing appearance. Browns, greens, yellows and reds are used, each panel being completely covered with the exception of number 7, the lower part of which is left natural cement. Color effects obtained in this way are rapidly growing in favor for cement, chiefly because each and every portion of the surface comes out in exactly the same tint, something that is hard to get when the coloring material is mixed with the cement coating. The paint comes ready mixed, requiring skill only in its application and that not beyond the ordinary craftsman. The tile shown in the center of number 2 is in beautiful and harmonious colors. As artistic cement construction develops, more and more tile will be used in this way, it being in good taste and very effective.

The surfaces illustrated were placed upon plaster board, a method employed instead of wire lath. The board is nailed carefully to the sheathing over building paper and its face given a coat of waterproofing solution of any standard make. Upon this is placed the scratch coat and finally the outer dashed or finishing coat. Some manufacturers of finishing products will give a guarantee with this kind of construction.

For houses of the kind in which our readers are chiefly interested many of the surfaces described in these articles could be used to advantage. Not only has the subject been carefully considered as to its constructive side but also as to its appropriate use. As a promising field of usefulness it may be said that the contractor who has "ideas" and can work out the mechanical difficulties attendant to the artistic production of them, can create a demand for his services on a constantly increasing scale and at a greater price. Not the least benefit is that of the general advancement of cement as an artistic building material.

(To be continued.)



Courtesy of The Atlas Portland Cement Co.

METHOD OF APPLYING PEBBLE DASH FINISH

A Suburban Home

By M. M. Selim



A HOME IN HOLLYWOOD, CALIFORNIA.

FORTUNATE, indeed, is the man, who, after a hard day's work in the city, can board the trolley, and in a half hour find himself at home among the lemons, oranges, and roses of a suburb as attractive as "beautiful Hollywood."

The acme of the art of the architect is here, too, for it is a city of homes.

Mission, Spanish, Colonials, and all sorts and sizes of bungalows are represented, modified to suit the climate, the environment, and particularly the financial status of the owner.

The house illustrated here is one that is used with modifications by many builders, it being adaptable in many ways, to change.

The plan, however, has been much admired in this arrangement.

It is a house of full two stories and attic, this making the second floor rooms much cooler in summer than those of the so-called "story and a half" bungalow, which seems so popular.

The house is painted Colonial yellow with white trimmings, which has a very pretty effect among the green of the lemon and orange trees. The broad porch extends nearly across the front of the house with low wide steps at the left making an easy entrance. The floor of the porch, the steps and walk are made of red cement.

Passing in at the front door we find ourselves in the hall, out of which the stairway leads up on the left to the landing; then turns at right angles and leads to the second floor. The hall, though not



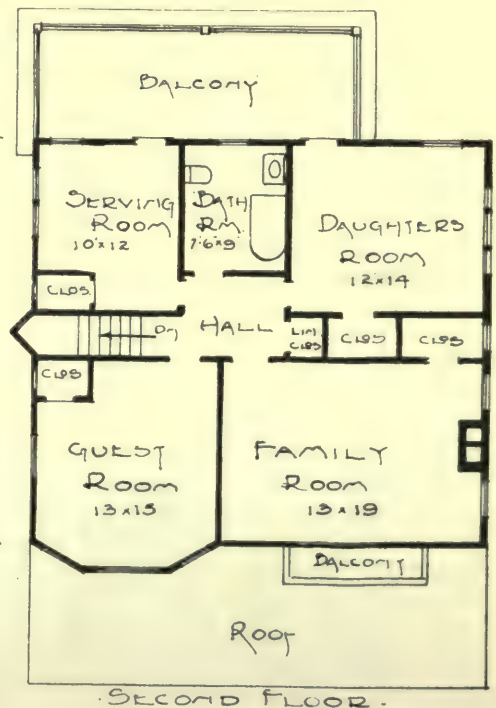
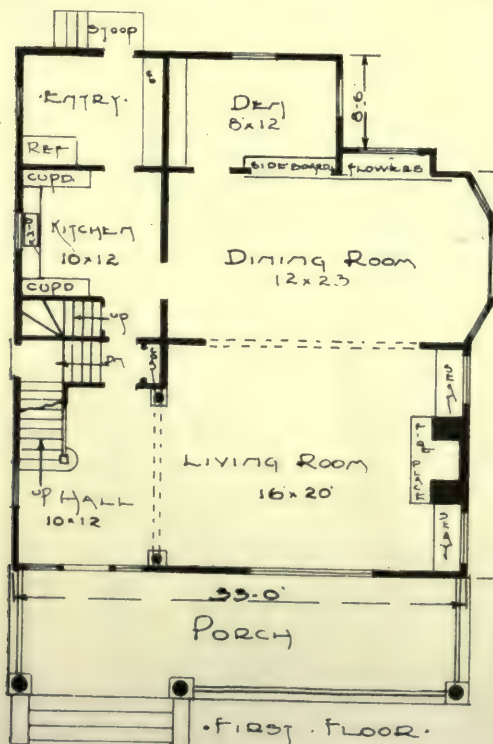
THE LIVING ROOM.

large, makes quite an addition to the living-room from which it is separated by columns at either end of the opening between them.

There are casement windows at either side of the front door, also a pair at the

left of the stairway, giving the hall which is usually dark, plenty of light and ventilation.

A built-in seat next to the stairway is suitable for the storage of rubbers and umbrellas.





THE DINING ROOM.

Another convenience is a full-length mirror in the door leading to the back hall, where one can give the final adjustment to garments before starting out.

The hall, also the living room, dining room, and den are finished in the beautifully marked Oregon pine, so much used for interiors in southern California.

These rooms all have beamed ceilings and a four-foot wainscoting as a finish.

The floors are all of wax finished oak. At the farther end of the living room, is a modest fireplace of cream pressed brick. I say "modest" fireplace, for we notice in some houses such ornate affairs, built in of cobble stone, cut granite, etc., built to the ceiling and entirely out of place in small or moderate sized rooms, that this low fireplace although six feet wide, seems indeed modest in comparison. On either side of the fireplace are built-in book cases with leaded glass doors; above these are casement windows, which with the large eight-foot window facing the porch, makes light for this room.

Just back of this is the dining room, with three windows at the south, in a slight bay, and a casement over the china

closet. A large sliding door is used between these two rooms.

Every housewife likes plenty of room for her china, and here the cupboards are large and convenient. Both the china-closet and buffet are finished with leaded glass doors. The buffet is complete with six drawers for table linen.

In the den, which is just back of the dining room, we have another book case built quite across one end, and if this space is not needed for books, the doors may be draped on the inside, and papers, magazines, games, etc., may find a place seldom provided for.

Here, too, is a built-in seat, extending all along one side under the windows. It has covers which lift, providing nice "hide-a-way" places for the odds and ends which are always accumulating. There are French doors at the south end of the room leading out to a small portico.

The rooms are all finished in tinted plaster; hall, olive green; living room, "burnt leather"; dining room, "burnt orange"; and the den in dull red.

The kitchen leads out from the dining room on the left, and having a north exposure is tinted in pale yellow with white

enameled woodwork, and blue and white linoleum for a floor covering.

There is a "swing door" between these rooms, which has a happy faculty of staying open, if one desires.

The white enameled cupboards extend to the ceiling, and under these a broad shelf goes quite across one side of the kitchen.

The sink is in the center of this just under a low broad window. Below the broad shelf are the cupboards, drawers, molding boards, and flour bins.

The screen porch is just back of the kitchen and is furnished with stationary tubs, a toilet, also another closet for brooms and the various homely utensils which a house must possess to keep it in good order.

The little hall between the front hall and the kitchen, is furnished with a coat closet, and also leads down to a landing with an outside door; a few steps farther down brings us to the furnace-room with its cement floor and plastered walls.

The fuel used is "distillate" or crude oil, which furnishes enough heat for this climate, and is cheaper and cleaner than wood or coal.

A back stairway from the kitchen leads

up to the front stairway landing, and from this place the same stairway is used to go to the second floor. Here we enter a small square hall, with linen closet and drawers, and which leads to all the rooms.

This floor is finished in white enamel with tinted walls and maple floors. The walls in the guest room are pink, in the family-room light green, daughter's room light blue, bath room, darker blue, and the sewing room old rose.

The family room is very pleasant, being well lighted, as are all the rooms, and having French doors which lead out on a small balcony. From here we get the "view" dear to the heart of every Californian, a glimpse of the ocean, if the day be clear.

There are doors also from the two back rooms leading out to a large balcony where one may spend a comfortable afternoon in summer, as it is on the east side. This might be utilized for one or two out-of-door bed rooms if desired, and could be screened in very nicely.

There is also room in the attic for two more bed rooms if necessary, and so the plan may be adapted for the use of a large or small family.



A BEDROOM CORNER.

Notes on Gardening



A POND OF WATERLILIES.

Spiraea Family of Shrubs.

If only a small amount of money is available for shrubs, spiraeas of different kinds will be a wise selection. There are over fifty varieties, of which some are hardy shrubs, others are hardy herbaceous perennials and in either case must be considered in relation to the climate. Those mentioned are hardy shrubs and can be safely planted in most of the northern states.

The most satisfactory of all for ordinary gardens is *Spiraea Anthony Waterer*. It has beautiful diskheads of carmine-crimson flowers, that will literally cover a healthy bush of 2½ feet in height, so that nothing can be seen of it except glimpses here and there of its tender, exquisite foliage. These rich

blossoms will come out day after day, just as long as the fading ones are cut off, and they will stay in this full bloom from June till November. No insects have ever been seen on it. It has had less care than most of the other shrubs in the garden, because it has never called for any except to supply it with fertilizer. It never has fungus diseases or blights. Truly it may be said that this shrub grows "like a weed." Its low growing habit makes it available for any purpose; the backs of borders or beds, corners, isolated situations, etc.

Next in value and beauty comes *Spiraea Van Houtteii*. This has only a short flowering period, bursting into full bloom in June, and bearing no blossoms after that; but while it blossoms it is a

white glory, for it stands as if covered with snow. Its foliage is superb and thick through the whole season, and as it grows six feet high it will form an effective shrubbery.

Spiraea prunifolia is the shrub better known as bridal wreath, whose exquisite double white flowers delight the eye in May and June. It is more delicate in structure than the others and very charming.

Plants three years old and two feet high are sold by growers for 25 cents each. Three plants of each variety will make a respectable shrubbery by themselves. They will thrive in almost any kind of soil so long as it is worked fine and deep and well fertilized. They will do as well in partial shade as in full sun.

Propagation of Plants.

Few persons have so many plants that more would not add to the beauty of the home. The necessary pruning that takes place each year produces a great many cuttings that may be set out to advantage and in time will give good returns for the care taken. Not only are they available to set out in positions as desired to extend the garden, but are valuable as small income producers. A good idea of value can be obtained of any nurseryman. The larger the plant the more costly it will be. If no profit is desired, it will be a pleasure to supply interested friends who are beautifying their home grounds.

If it is at all possible, set aside some waste part of your place, even if it is only a few feet square, for a place to plant all cuttings that come away in pruning shrubs and other plants.

The *hydrangea paniculata grandiflora* will root splendidly from cuttings five or six inches long, set in the ground any time before June. If the soil is mellow and soft all that is necessary is to stick the cutting in. As pruning is beneficial

for this variety of *hydrangea*, you will get many cuttings even from one plant. There is no reason why dozens of plants should not be raised from them.

The larger clippings from California privet hedges will root with equal ease. Willows of all sorts, poplars, catalpa and almost all the hardy shrubs will root well. To get a tall background or a screen quickly and cheaply, nothing is so easy as to plant poplar branches close together. Five out of six poplar cuttings will thrive, even if they are as long as five feet when thrust into the ground. Peel away a few inches of bark at the bottom. They will often have quite a showing of leaves within a few weeks after planting.

Catalpa is another wonderful grower. Catalpa trees, cut into lengths for fence posts, often take root and become fine trees.

Most hardy roses will propagate well from cuttings, though not so easily as the plants that have been named. *Wegelia* and *forsythia* propagate well under favoring conditions, but are not absolutely certain.

Locust, when grown for a hedge, can be made to increase itself by frequent pruning and planting of the cuttings. Woodbine and all the varieties of honeysuckle will grow freely, particularly if a good portion of vine be planted its whole length in a trench so that it may send out lots of suckers.

If there is an unattractive vacant lot behind your garden or anywhere where it spoils the view, plant all your cuttings there, and in addition throw there all seed that you can't use and all old roots.

Only a few minutes need be devoted to this, for you need simply stick the cuttings into the ground.

An ugly plot can be changed into a beautiful wild garden and a nursery that will provide hundreds of plants.

Designs for the Home-Builder

HOMEBUILDERS everywhere are very busy people at this time. Those who got an early start have their homes well along and are asking questions of a practical nature, in quantities that would surprise the average reader. Those who have just broken ground and those who are still undecided as to plans are equally anxious for information, showing a degree of building activity greater than any previous June.

Realizing that this department is eagerly scanned by thousands of readers of varying financial standing, each anxious to receive help, a special effort is made to make it of service to all. The designs are not only practical, but are artistic and pleasing externally, a combination too often neglected.

A home, however small, should possess individuality if it is to impress its inmates with what it stands for to them as a family. With this idea in mind these designs have been carefully selected and presented.

Design "B 150."

Construction.—Outside walls 1:3:5 concrete treated with waterproof compound (R.I.W. or similar) on interior and plastered; dash finish on exterior. There is to be basement under kitchen and dining room portion only, with reinforced concrete floor over. Other portion of first floor on filling. Floors 2d and 3d stories and stairs of reinforced concrete, 1:2:4 mix. To have sleepers with cinder concrete filling and hardwood finished floors. Partitions supporting floors and stairs to be of concrete; others either solid cement plaster or blocks plastered. Roof framing of steel channels; roof of patent metal lath plastered both sides. All overhanging portions and barge boards finished the same. All to be painted waterproof cement paint. Wood ceiling and roof framing on porches; all stained. Metal roofs on porches. Trim of oak on first floor and halls 2d and 3d story. White enamel or oak for bedrooms and bathroom. Yellow pine in servant's quarters, 3d floor, stained and waxed.

Cost.—The following estimate is for house only. No driveways or walks included and no plumbing or sewers outside of building.

The designers estimate the cost at \$7,600.

Concrete work and plastering.....	\$5,000.00
Carpentry, mill work and glazing....	1,400.00
Plumbing	350.00
Heating (furnace)	200.00
Painting and decorating.....	275.00
Electric light wiring.....	100.00
Hardware	50.00
Metal work	100.00
Electric fixtures	125.00
Total	\$7,600.00

Design "B 151."

A brick house on symmetrical lines is always in good taste if of good detail. In this instance we have a house severely plain yet carefully studied in all its external motifs of design and also as to its internal arrangement. The reception hall is spacious and very attractive with its beamed ceiling. Connecting with it by large openings are library, drawing room, dining room and the staircase hall which leads to the porte cochere. Adjacent to drawing room and dining room is a solarium affording a pleasing vista from either room. The kitchen and pantry are well appointed and of more than ordinary size. On the second floor are five large chambers with a bathroom and two private lavatories. The attic is large and may contain a billiard room and chambers if desired. The basement is complete with boiler room, fuel rooms, laundry and storage rooms. The billiard room could be located in the basement. The finish is very elaborate, the library being in circassian walnut, the hall and drawing room in mahogany. The dining room is in quarter sawed white oak and the solarium in quarter sawed red oak with a tile floor. The second story chambers are in birch, bird's eye maple and white enamel. The house is 48 ft. wide and 42 ft. deep, basement is 7 ft. 6 in. high, the first story 10 ft. and the second story 9 ft. The architect states that the house costs \$14,000 with heating and plumbing included, but on a less pretentious scale could be built for much less.

Design "B152."

This residence is of the Swiss Chalet type enclosing an arrangement which has an air of western comfort and hospitality. The house is built on a solid ledge, being set high

up on a foundation of rustic rock to eliminate the expense of a deep excavation. The basement contains a good sized den with brick fireplace, paneled wainscoting, casement windows, etc., also a well equipped laundry, lavatory, vegetable room and heater room. Entrance is made from a veranda 39 ft. by 8 ft. to a vestibule directly off the living room. The first floor consists of a living room, dining room, butler's pantry, kitchen, two bedrooms and bath. The second floor contains three bed rooms and a good sized sleeping balcony. The house contains an exceptionally large amount of closet space, as will be noted by the plans. All the rooms on the first floor are particularly well lighted. All rooms throughout, except the two bedrooms, kitchen and pantry, have casement windows, the balance are double hung. The finish of the living room, dining room and vestibule and den in basement is of curly fir, stained, varnished and rubbed down. Finish floors of main rooms, of maple. Balance of finish floors of fir. Fireplace and hearth in living room of pressed brick, on either side of which are built-in bookcases. The dining room is connected with the living room by a wide opening. The walls to a height of 5 ft. 6 in. are finished in burlap paneled wainscoting, plate rail, beamed ceiling, etc. There is a built-in sideboard, simple but tasty. A cluster of five casement windows furnish light for this room. The kitchen is separated from the dining room by a butler's pantry which has a large work ledge, china closet, cupboards and drawers for utensils, etc. The kitchen is of good size and well arranged. Directly off the kitchen is a screened-in back porch with ample room for a refrigerator. A spacious hall is located in the center of the first floor. Opening into living rooms, bedrooms, bath, kitchen and stairs to second floor and basement. The exterior presents a very pleasing appearance. The foundation walls are of moss covered rustic rock, the walls above the foundation are of cedar shingles spaced $6\frac{1}{2}$ inches to the weather, stained dark brown. Roofs shingled and stained dark green. All sash painted white on the exterior, giving a very pleasing contrast against the brown walls. Chimneys, where exposed on the outside and above the roof are faced with clinker brick laid in black mortar.

Cost of house as designated, about \$6,000.

Design "B153."

A better arranged house for a good sized family would be hard to find. To commence with, the porch is especially large, being 10 ft. wide by 39 ft. long, the full width of the house. The vestibule is of good size and has a coat closet at each side. To be practical, a vestibule should always be large enough to accommodate at least two people at one time, and still allow for the swing of the door. The entrance hall opens into the stair hall, living room, and dining room, through wide openings which can be closed when desired by sliding doors. Off of the living room is the library, which can also be secluded by a sliding door. The library is very cozy. It has a fireplace, book cases, and a window seat. On the second floor are four bedrooms, a bath-

room, sewing room and many closets. The sewing room would make a small bedroom if desired. The plans show a wood rail and balustrade. Size of house, 29 ft. by 39 ft. Height of first floor, 9 ft. 5 in.; height of second floor, 8 ft. 3 in. Estimated cost, with pine finish, \$3,850, not including heating and plumbing.

Design "B154"

A cottage of cement with low sloping roof and simple dormer windows may be a very pleasing addition to the neighborhood. The cottage of the illustration is of this type. Its roof shingles are red, its trim stained a dark brown and its walls of rough cast grey cement upon expanded metal. There is a living room across the entire width of the house in front, with a recessed seat, a brick fireplace and bookcase built in. Adjacent to the vestibule is a coat closet. A dining room is separated from the living room by an opening equal to its entire width, and contains a built-in dresser. The kitchen is at the rear and is completely fitted up with sink, cupboard, gas stove, etc. The refrigerator is located conveniently in the entry.

An unusual feature for our day is a chamber on the first floor. It is provided with a clothes closet and a toilet room. A short passage connects the chambers and dining room, from which also the stairs lead up to the second floor. There are two ample chambers, each with a closet, a large studio for the owner, who is an artist. The studio would make a very fine chamber, it being the largest room upstairs. There is a good bath room with linen closet and a stair from the hall leads to the attic above. At the rear is another screened porch equal in size to the one directly under it on the first floor. The living room and dining room are finished in plain white oak and floor. The finish and floor of the kitchen, studio and chamber are of birch. The second story chambers have finish of pine to paint and birch floors. The basement is 7 ft. 6 in. high, the first floor 8 ft. 6 in. and the second floor 8 ft. The house is 30 ft. wide and 34 ft. deep. The cost is estimated at \$2,900.

Design "B155."

This little cement coated cottage is designed with the idea of producing an artistic convenient home at a moderate cost. The gable ends and external wood trim are to be stained a rich brown with either green or red shingles. The cement is given a pebble dash surface of an ecru tint. The plan is unique but very practical. At the right after passing the vestibule is a chamber of good size with a closet, the stair is in front and at the left is a large living room carefully arranged as to furniture and well lighted. Wide doors at the rear open upon a screened porch where the dining room table may be placed in summer, serving directly from the kitchen. Of ample size the kitchen is well appointed, with ready access to bathroom and basement. The bathroom is located between the chamber and the kitchen with a door to each. On the second floor are two good bedrooms, ample storage space and a balcony. The finish of first floor except bathroom and chamber is Georgia

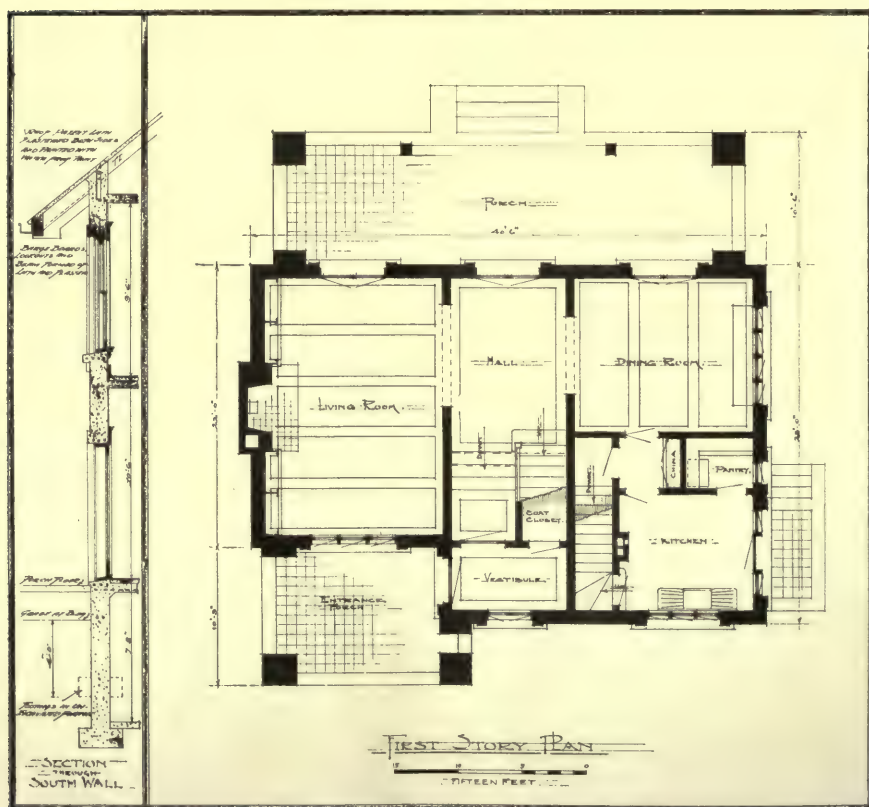


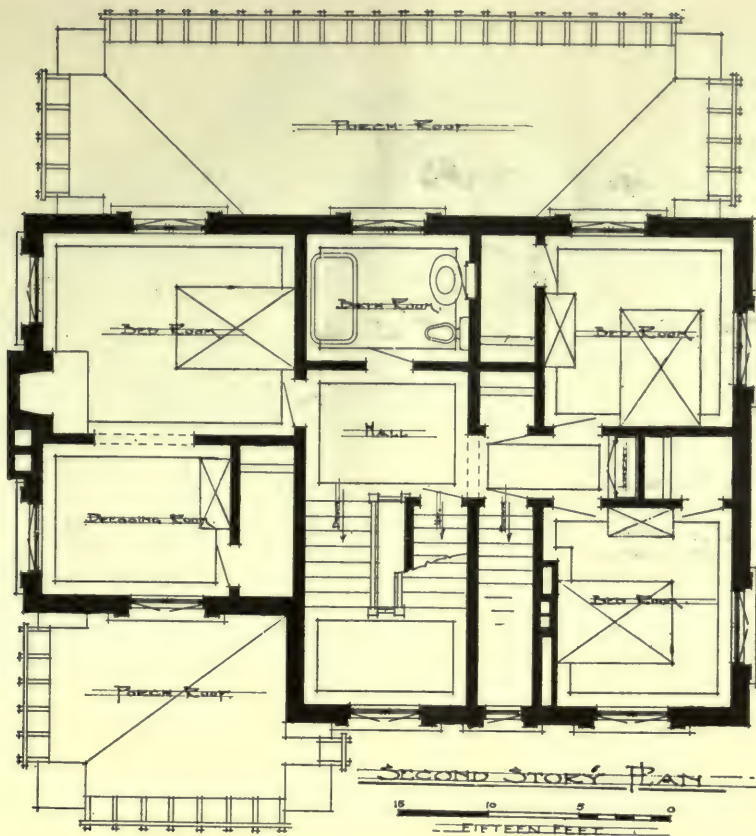
Courtesy Universal Portland Cement Co.

FRANK W. CHURCH, } Designers
WALTER S. CHURCH, }

A Craftsman House in Cement

DESIGN "B 150"





Cottage Designs for the Home-BUILDER—Continued

pine stained and natural Georgia pine floors throughout. All other finish in the house is pine to paint with pine floors in second story. The height of first story is 8 ft. 6 in., and a minimum height of 6 ft. at sides of bedrooms with 8 ft. in the center. The house is 30 ft. wide and 29 ft. deep. The architect estimates the cost at \$1,500 with an additional cost of \$300 for heating and plumbing.

Design "B156."

In the half timber design herewith illustrated, we have on the first floor a large hall connected by a double columned archway to the reception room, making really one large room. The parlor is connected to the hall by folding doors. This will be found a very pleasant room, amply lighted by four windows, and the fireplace will add much to the coziness of the room. All rooms on the first floor, except the kitchen part, are finished in oak, and hardwood floors are included for the entire first floor. On the second floor are four nice chambers, bath, closet, etc. The chamber over the parlor has a fireplace with red pressed brick facings and hearth. All rooms of the second floor are finished in pine or poplar, also the kitchen. Hardwood floors in second story front hall and bath. There is a full basement with cement floor, outside cellar entrance, coal bin, ash pit and hot air heater.

There is ample room in attic for one or two rooms, if same are desired. Foundation wall is of brick, but in localities where stone is cheaper an 18 inch stone wall may be substituted.

Cost, \$4,800. Width, 38 ft. 6 in.; depth, 32 ft.; height of basement, 7 ft.; first story, 9 ft. 5 in.; second story, 8 ft. 3 in.

Design "B157."

From the general appearance of this house no one would think it was a duplex. It looks like one of the larger private residences, a fact which will recommend it to many. It is of frame construction, covered with cement on metal lath, with trimmings of wood painted white.

The first floor contains vestibule, reception hall, living room, alcove with closet, dining room, pantry, kitchen, two chambers and a bath room. The second floor is almost identical, the entrance and the location of the alcove closet being different. Each apartment has a front porch, a screened rear porch and a rear stair, the basement portion of which is used in common. The basement contains separate heating plants and a laundry. The finish and floors are of birch.

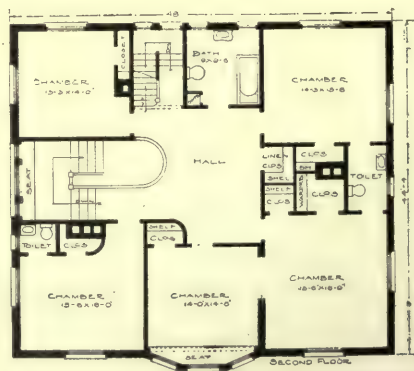
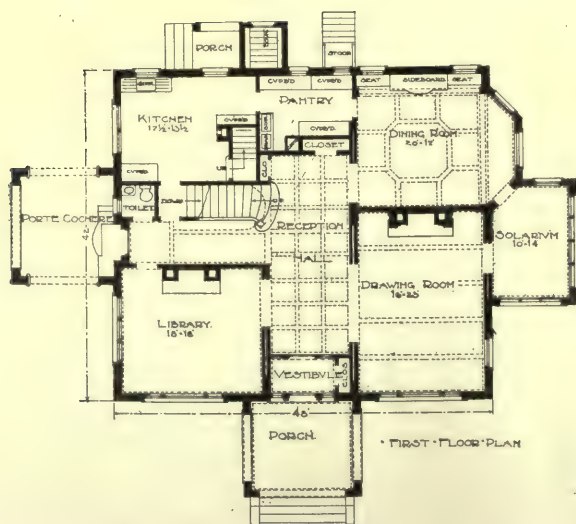
The house is 29 ft. wide and 45 ft. 6 in. long. Basement, 7 ft. 6 in., and upper stories 9 ft. high. Estimated cost, about \$6,000.



ARTHUR C. CLAUSEN, Architect

A Well-Proportioned Brick House

DESIGN "B 151"

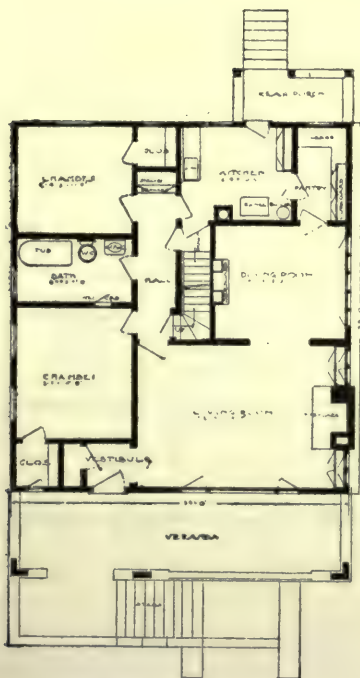




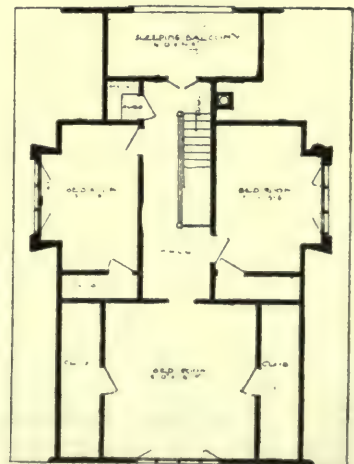
KEITH & WHITEHOUSE, Architects

A Very Artistic Swiss Chalet

DESIGN "B 152"



FIRST FLOOR PLAN



SECOND FLOOR PLAN

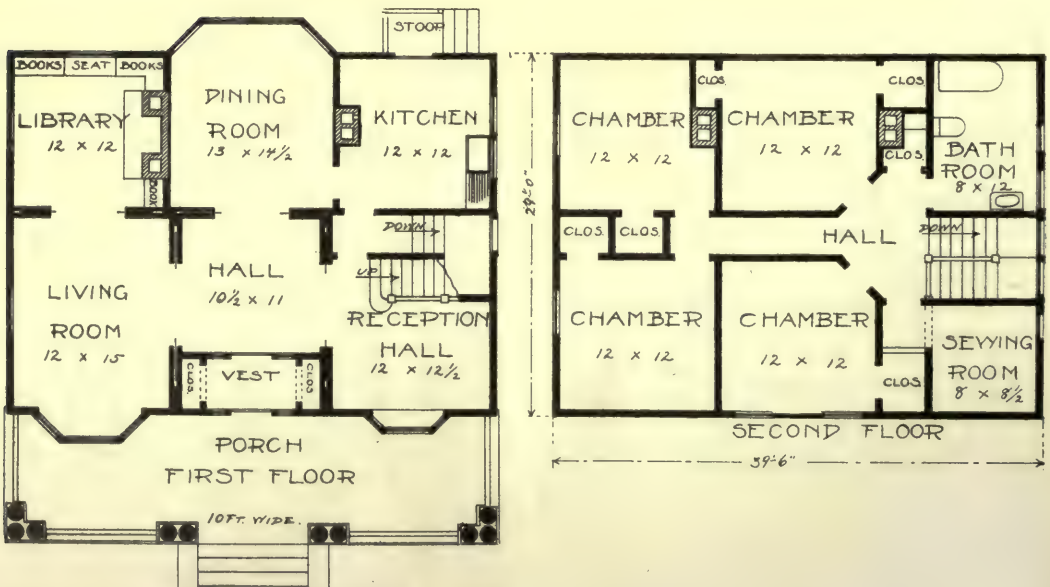
KEITH & WHITEHOUSE
ARCHITECTS



Journal of Modern Construction Series

A Pleasing Exterior and Unique Plan

DESIGN "B 153"

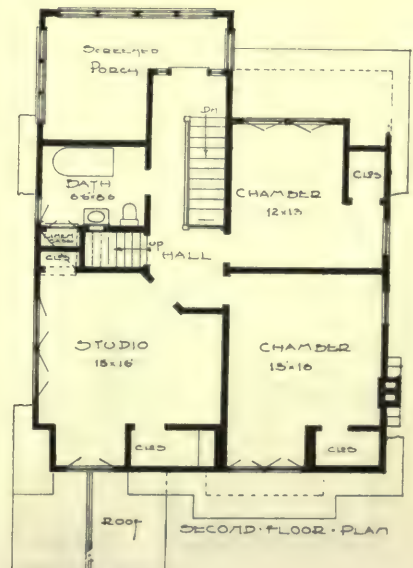
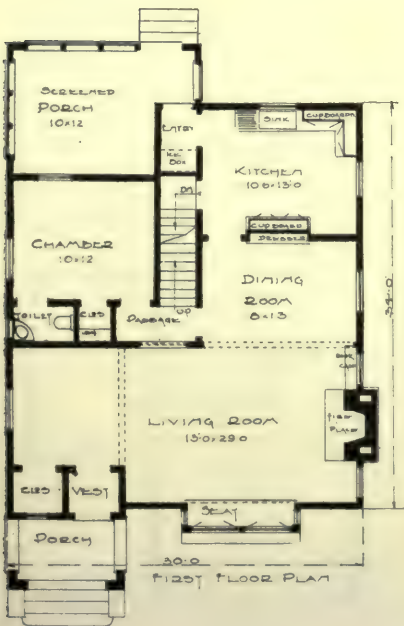


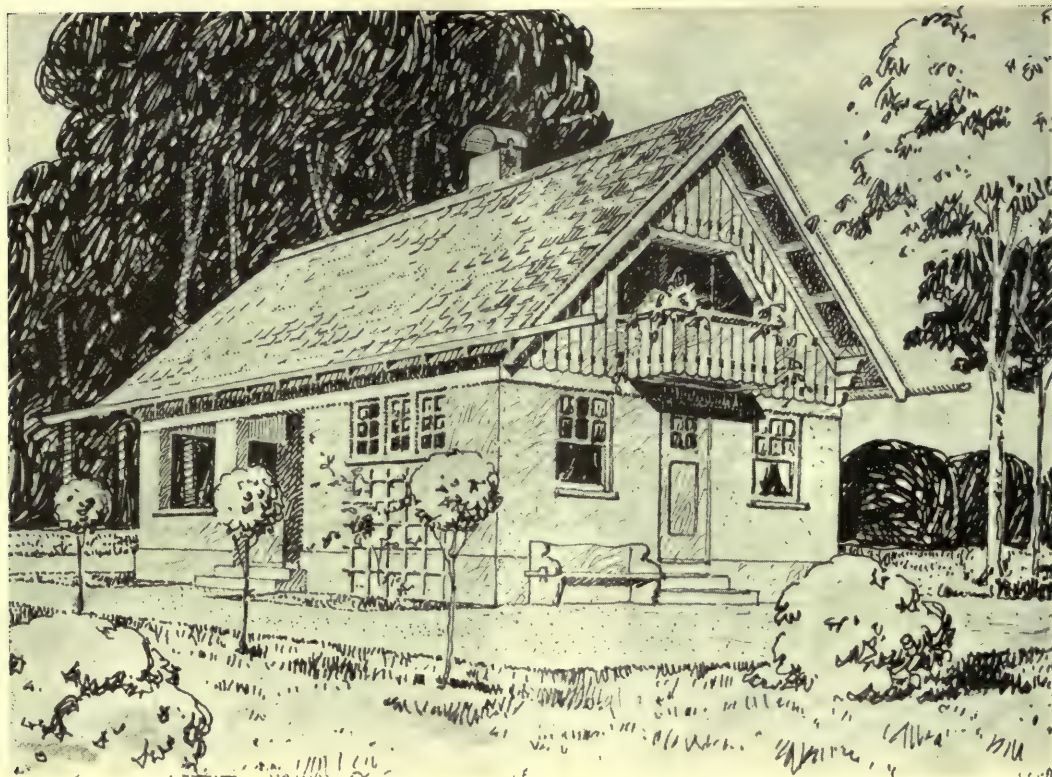


DOWNS & EADS, Architects

An Artistic Cement Design

DESIGN "B 154"

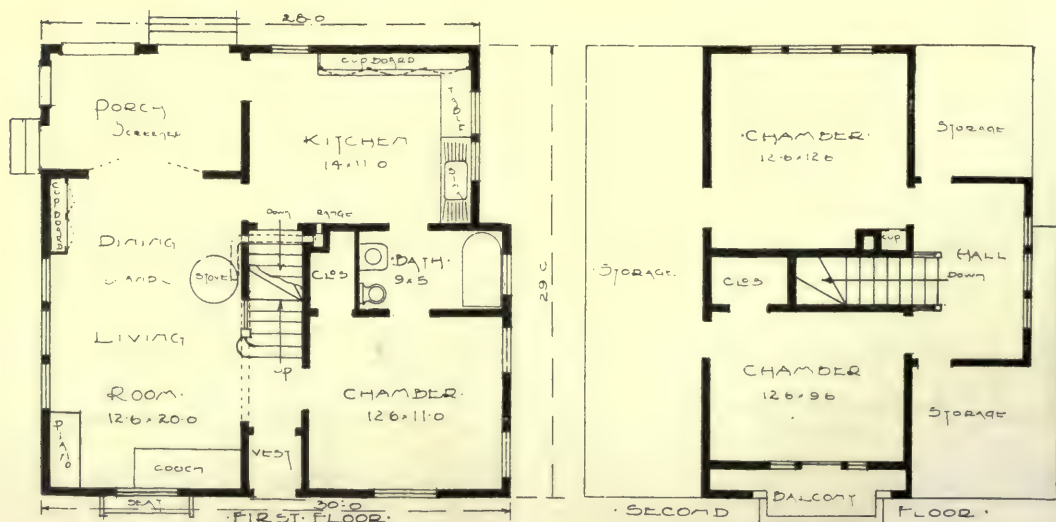




EDWINS & EICHENFELD, Architects

A Cement Cottage in Craftsman Style

DESIGN "B 155"

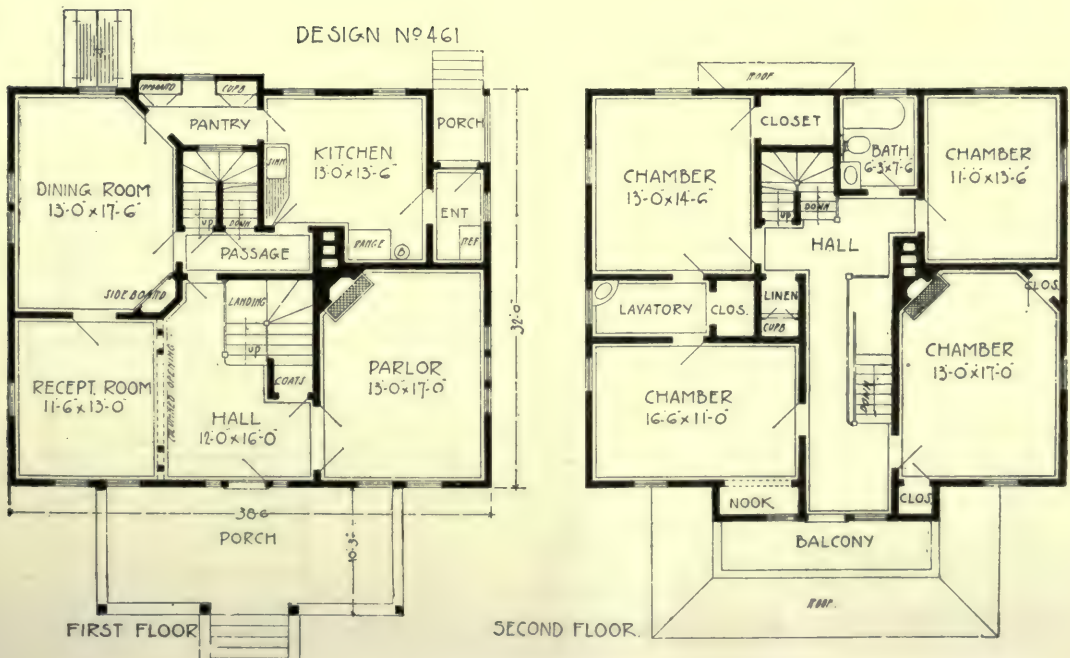




THE KEITH CO., Architects

In English Half-Timber Style

DESIGN "B 156"

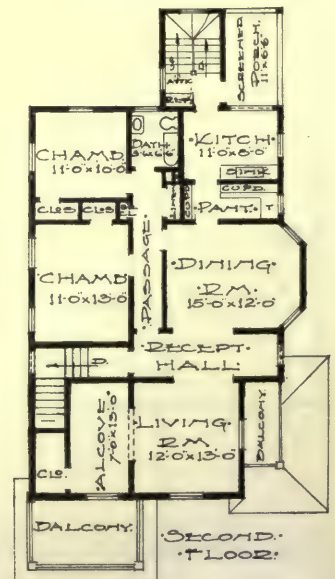
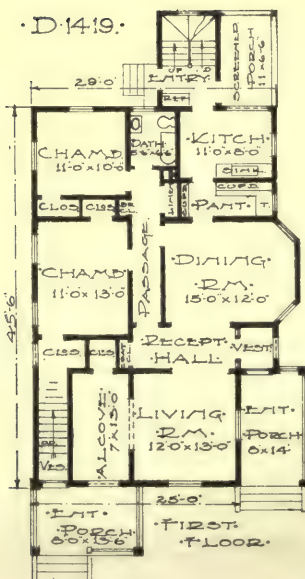




From "Duplex Houses and Flats."

A Duplex House of Cement

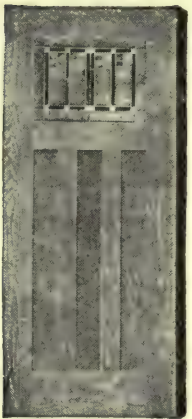
DESIGN "B 157"



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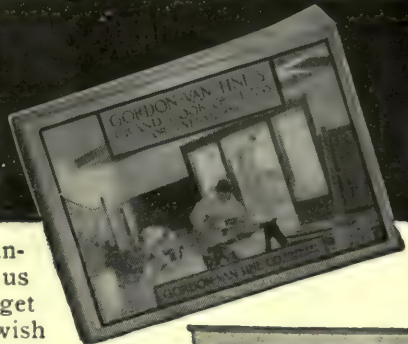
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Concerning Dining Rooms.

The dining room seldom receives the intelligent thought as to its situation and arrangement, which is its due. Not infrequently, of course, the first is determined by the construction of the house, but an unfortunate exposure can be remedied by a judicious color scheme.

In the matter of its general arrangement, it should be remembered that the dining room is inseparable from a certain formality. Cozy corners, studio effects, and eccentric decorations are manifestly out of place. Nor should the dining room be in any sense gay. Its function is that of a background or a setting, and it should have a certain sobriety of color and outline.

Not that a dining room should be dull. We all remember the grained yellow oak woodwork and chocolate brown paper considered suitable for dining rooms, twenty or thirty years ago. Happily all that has been changed. Still there is room for improvement and some of the most modern and expensive dining rooms sin greatly in this respect.

The Exposure of the Dining Room.

The ideal dining room has windows on all sides, but the north, and is always sunny except in stormy days. It is bright in the first hours of the winter day and catches the last rays of the setting sun for the late summer dinner. Such a dining room is only possible when it is in an extension, and, when it exists, is apt to have the kitchen beneath it, so it may be dismissed as out of the question for the average house. For practical purposes, a south and east exposure is almost as good as the room is sunny for breakfast and luncheon and the evening meal is eaten by artificial light during the

greater part of the year. This exposure has another advantage in that it adapts itself to almost any color scheme. Southern windows will light up even the heavy, dark woodwork of a craftsman dining room, and give an added value to every bit of polished metal.

A Dining Room in Mahogany.

Mahogany dining room furniture claims the allegiance of most people, and certainly it combines dignity and beauty of tone as no other wood does. It is less sombre than oak and it has a more aristocratic tradition back of it. Add to its merits that it is superior to all the chances and changes of fashion and you have a charter of aristocracy indeed. Even its counterfeit, stained birch, is delightful, although a clever eye can detect the difference in grain.

One difficulty with mahogany is that it really needs either white painted or mahogany woodwork. It is hardly in accord with the popular oak finishes.

The writer knows a room in which this difficulty was overcome by the use of a somewhat complex color scheme. In this case the woodwork of the room, and there was a good deal of it, was a rather light golden oak.

A wall paper was found in stripes of golden brown and green, the latter a rather bluish shade. Above the plate rail was laid a paper of very intricate design, of the style of William Morris, combining tan, green and reddish brown. The rug was Oriental, its general tone reddish brown. A better choice would have been a Donegal, or velvet, of the tone of the green in the wall paper. At doors and windows were hangings of a figured material in two shades of bluish green, with an edging of antique gold braid. A square

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Decoration and Furnishing—Continued

of the same material partly covered the mahogany table when not in use, and this too was banded with gold braid. The leather seats of the chairs were in dark green Spanish leather.

Manifestly china was out of place against a paper of bold design, so the plate rail bore only pieces of pewter and silver. Below it hung a collection of steins, the sort with cream colored grounds and highly colored decorations. The side board and serving table held only silver and glass, and not much of either, and both had covers of heavy lace, rather gray in tint, as the dead white of linen would have been too striking. The chimney piece carried a green jar of peacock's feathers, a copper flagon and a red chalk drawing in a black frame. The trick of the whole, if trick there was, other than the exercise of an exceptionally good color sense was in keeping all three colors in the proper proportion, so that no one of them obtruded itself. Another good point was that while the contact of the oak doors and window frames with the green and tan wall paper was not particularly happy, the strong pattern of the upper third of the wall, carried the eye upward where it noted the agreeable contrast of the figured wall and the oak. From time to time the floral decorations of the table are made to carry out one or other of the color notes. Sometimes a jar of tawny and buff chrysanthemums is used, at others merely dark green ferns, and sometimes brownish red wall flowers or nasturtiums. In summer time, just outside the bay window are boxes filled with brown coreopsis with a line of ferns next the room.

The Dining Room which is also a Living Room.

No room is quite so hard to manage as this. It is generally neither one thing nor the other, and in every way unsuccessful. The display of silver and china suitable for a dining room makes a living room looks jiggery; the ordinary comforts of the living room are out of keeping with the room of a single function.

The most successful way of solving the problem would seem to be to effect some sort of a division of the room, using one

end as a sitting room, the other for the dining table and other furniture, but this supposes a large, or at least long room, equally lighted at both ends. Another way is to dispense with the regulation dining room furniture, sideboard, serving table and china closet, using the table for other purposes between meals. Or better still have one of the circular tables whose top swings over and makes a settle. Their size is limited, but they are quite large enough to accommodate four people, and the lower part is a secure place for table linen and small silver.

There is a dining table which is specially made for small rooms which has a circular top. The chairs which match it are so constructed that when slipped under it their backs are on a level with its top and fit its edge. Such a table and four chairs in oak, in any of its various finishes, cost about thirty-five dollars. Oak tables with a swinging top can be had in any finish for ten dollars.

A Breakfast Room.

In the house of many rooms it is sometimes possible to have a breakfast room, as well as a dining room. In the city house with a dining room on the main floor there is sometimes a breakfast room in the basement, and it is a sensible saving of steps.

The decoration of the breakfast room admits of more variety than the dining room. Almost any scheme of decoration which is cheerful is admissible. It is quite proper to invent a color arrangement to match the pattern on the breakfast china.

For Blue and White China.

Suppose you use for breakfast willow pattern china, Canton or Staffordshire. Paint the woodwork white and cover the walls with cartridge paper in a light bluish gray, tinting the upper two-fifths a lighter shade, and on the separating ledge range your plates and jugs and platters. Ebonize the table and some sort of a serving table, also a table in two stories to hold the tea and coffee at the hostess's right hand. Get high backed splint chairs, ebonize the woodwork and supply them with loose cushions of blue and white, not white and blue, Japanese crepe, using the same for



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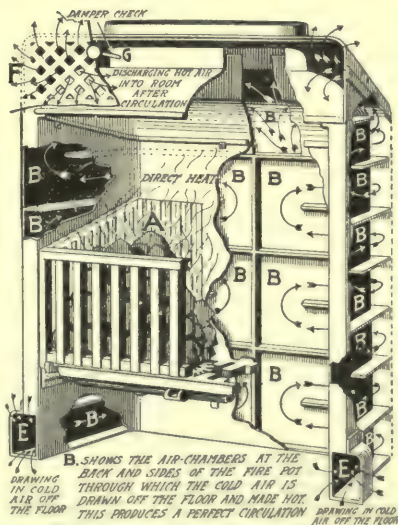
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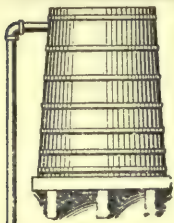


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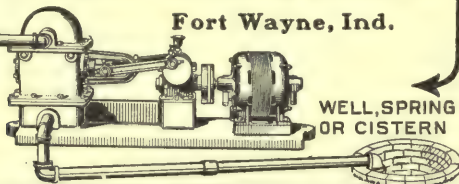
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Decoration and Furnishing—Continued

curtains. Have the floor stained a very dark walnut and highly polished and dispense with rugs and pictures.

Or you may use a very grayish green wall, the same furniture and woodwork, but a blue and green rug, blue and green linen instead of the crepe, and alternate bits of brass with your blue china. This latter scheme is a good one with Canton china. Pewter may be substituted for brass.

With Green or Yellow.

Suppose a breakfast set of green and white or of some of the flowered designs which combine yellow flowers and green leaves. You may cover the walls with a pale buff paper in stripes of self tone, omitting the plate rail. The necessary tables will be of oak, rather light brown, the woodwork the same, the floor a little darker. Get bamboo chairs with straight backs and circular seats. Then for cushions and curtains use an English cretonne with a pattern of overlapping yellow flowers and green leaves. This and the bamboo chairs are standard goods and easily obtained.

Pink and Green.

A breakfast set in pink flowered china is an excuse for an effective scheme in pink and green. Use the same gray green wall as for the Canton china, but have the woodwork painted a somewhat darker green. Carry a pink nosegay border around the surbase, and edging the doors and windows, finishing the ceiling line with a very narrow wooden moulding. Then have furniture in green stained oak and window curtains of a pink flowered cretonne, as well covered as possible.

Aside from its special purpose a breakfast room is convenient as a place for the service of some specially late or early meal, for the parting or arriving guest, or for the children's midday dinner, in fact for any use a bit out of the common.



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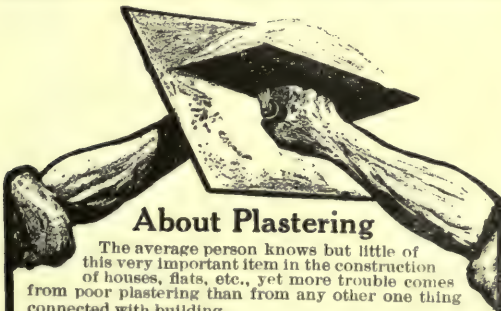
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ANSWERS TO QUESTIONS

ON INTERIOR DECORATION

Editor's Note—The courtesies of our Correspondence Department are extended to all readers of Keith's Magazine. Inquiries pertaining to the decoration and furnishing of the home will be given the attention of an expert in that line.

Letters intended for answer in this column should be addressed to Decoration and Furnishing Department, and be accompanied by a diagram of floor plan.

Letters enclosing return postage will be answered by mail. Such replies as are of general interest will be published in these columns.

C. H. P.—Enclosed please find a sketch of one flat office building now in process of construction. The ceilings are 9 ft high and building faces west. The brick fireplace is of reddish brown brick. The woodwork in sitting room, reception room and dining room is to be of oak stained fumed brown. The dining room has a beamed ceiling and is panelled up 5 ft. with rough plaster between panel strips. All finished in rough plaster. Bedrooms are finished in natural stained birch, kitchen the same and bathroom, white enameled.

For my sitting room I have a new body brussels rug in brown and tan ground with brick red and dark green in the small all over design.

One fumed oak rocker with leather seat, one brown rattan rocker, one golden oak Morris chair which needs new cushions, please suggest color, and a number of bookcases all to be refinished in brown stain. The reception room we shall use as a kind of writing room and have my husband's small mission desk there. We want a davenport or couch with leather cushions to be made in the arts and crafts department of the high school. Which would be the more suitable in the sitting room? I want browns, dull orange and tans to prevail in these rooms with a touch of green in dining room, but I do not know how to blend them.

C. H. P. Ans.—Your idea of keeping the main living rooms in tones of brown, dull orange and tan is very good, with your brown stained woodwork and furniture. As you do not want dark effects, however, it is best to use a soft tan or ecru on living room wall, deepening it in hall to a rich brown. The couch could have cushions of brown mottled leather. The desk would fit into nook beside vesti-

bule in hall. The Morris chair could be re-upholstered in tapestry leaf design in shaded browns with red and green touches.

As the dining room faces south, it is suggested to use a rich green stain on the plaster panels between wood strips of lower wall, and the same soft ecru as living room on wall above, also between ceiling beams. Then stencil a decoration on upper wall space, introducing greens, orange, browns, in a leaf design.

In the child's bedroom, a plain blue chambray paper could be used six feet up, capped by a picture moulding or a card rail of white wood, with one of the charming bird friezes about 8 in. wide just under the moulding. Tint the wall and ceiling above plain ivory. Use yellow in one of the north bedrooms and put your birdseye maple there; Dutch pink with white woodwork in the other.

The student's room should not have white woodwork nor white enamel beds. Paint woodwork a warm olive green with deep cream walls and bed green or woodwork a dull sage green with bright red wall or brown with grey wall and scarlet furnishings.

Paint your exterior deep cream and stain roof shingles and trim the rich reddish brown of the chimney.

T. W. C.—“Will you help me in deciding about paint, paper, curtains, furniture, etc., of my home which has lately been remodeled, and is now ready for paper, etc? I enclose the plan.

First, we will take the living room, with E. W. and S. exposure. I had thought of delft or old blue for this room, blue paper, white ceiling, brought down 20 in. on side wall and a moulding. White woodwork, birch doors, stained mahogany and mahogany furniture.

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Answers to Questions on Construction—Continued

Now, if I do use the blue, please suggest finish of floor, which is hard pine, can it be waxed, if so, how shall I proceed? Same as hard wood? What color shall I stain it, and what colors shall the rug be, also portions between this room and hall, etc?

T. W. C. Ans.—In reply to your request for advice, it is suggested to use the large S. W. room as a family room and to treat the small room on north of hall as a parlor or more formal reception room. The dining room opening from it should have the same woodwork and a white trim with mahogany furniture is best suited to this room also. We would advise for the family living room in lieu of the delft blue, a toned paper on the wall in almost invisible pattern with cream ceiling. With this livable background, a large 12x14 rug in rich blue and green combined, two green wicker chairs with seats of plain, rich blue corduroy and a couch or divan upholstered in an English worsted in the same blue. Seat cushions of English cretonne in deep blues and greens; curtain, at the casement of Sundure in an indescribable bluish green tone and at the large windows—of cream barred scrim. No over-draperies are needed in this room but all windows should have shades. The other pieces of furniture you mention would seem to be sufficient and could be either mahogany or brown fumed wood.

This will give you a restful and serviceable family living room which will open beautifully into the hall done in white paint with mahogany stair-rail and rich deep green rug and stair carpet. Very appropriate block patterns in figured lace come for door and side lights. There should be silvery green velour draperies in the opening. There is a hall paper in soft greys and white that would make a charming background for the green; for the parlor, there is a delightful silvery grey paper in leaf design for the wall and with this use a rose colored rug and white lace curtains with rose silk or velour over draperies. Mahogany furniture, some of it upholstered in plain rose or rose and pearl. As doors into dining room will be usually closed, no draperies are necessary. The dining room wall with white woodwork will be charming in a broad center

panel of gay birds and foliage on a cream ground, with a plain deep blue Eltonbury silk fibre paper below it up to a chair rail and cream color ceiling coming down to meet it. A round mahogany table, buffet and chairs and a rug of mottled blue Mossdale, not expensive and very durable. All floors stained nut brown, then shellacked, waxed and polished just as for hardwood.

H. L. P.—Enclosed find sketch of house we are building. I would be very grateful for some advice about the woodwork.

The vestibule, living room and library are planned for quarter sawed white oak, stained to a medium darkness. The dining room is planned for a beamed ceiling with a light tint between the beams and down to 2½ ft. below ceiling. I would like all the woodwork in the dining room white and the walls below the moulding of old blue to harmonize with walls and furnishings in living room, etc.

H. L. P. Ans.—Regarding your inquiries as to treatment of dining room, the question of the woodwork would be governed largely by the dining room furniture. If this is mahogany, then white woodwork with birch doors stained mahogany and mahogany beams, would be very delightful in this northeast dining room. You could then tint the plaster between the beams, the upper side wall a deep ivory with old blue below the moulding. A frieze decoration, either stencil or paper in rich colors, on the ivory upper wall would be an addition. The sliding door could be mahogany stained on dining room side and brown on the other. But if the dining room furniture is oak, then white woodwork would not be a good setting for it. In this case, the woodwork best be oak also, and the walls done in old blue or in soft brown below the moulding and dull yellow above. Any of the cheaper woods, such as pine, poplar or cypress are suitable for woodwork to be enameled.

Old blue is not a good choice for the side walls of a living room; but with walls of a warm pretty grey tint, old blue rug and furnishings would be very effective and the room thus brought into relation with the old blue wall of dining room.

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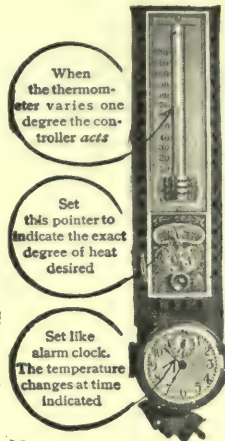
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Taking Thought for the Morrow.

We all of us hear, now and then, those time honored adages, "Take time by the forelock," "Let your head save your heels," and "A stitch in time saves nine," but how many people really practise them? And are not a very large proportion of the difficulties of our domestic life due to just this neglect?

Let us apply the first of these to what is to so many housekeepers a bugbear, the dinner at night. In a large majority of families, putting the principal meal of the day at its close means a distinct gain both to the convenience of the members and to their physical well being. If the employed members of the family can come home to a midday dinner, it is sure to be eaten in haste. If it must be eaten abroad, it is at once expensive and in-nutritious. But a substantial meal at six or even seven o'clock can be eaten at leisure and has ample time for digestion before the hour for sleep arrives.

Here comes in the application of our proverb. Suppose the marketing to be done at an early hour, so that everything required is in the house by noon at latest, how simple it is to have things prepared by noon, vegetables washed, a roast tied up and dredged with flour and in its pan, steak or chops trimmed, a sauce for fish or vegetables already made and only requiring to be re-heated, a cold pudding cooked, or a hot one mixed for the oven or the steamer. Then the actual getting of the meal is a trifle, merely drawing up the fire and putting things on to cook. Unless the dining room is used as a living room, it is a great saving to set the table after each meal for the succeeding one.

And, in clearing away a meal, dish-washing is much simplified if, as the main course of the dinner is removed, all the silver is dropped into a pan of hot water, and dishes of a sort set by themselves. Little bits of forethought like these minimize labor tremendously in the long run.

So, too, with the injunction as to saving your heels. Suppose the advent of a guest to stay several days, which deranges most households very perceptibly. Why not plan out the week's meals at once and, as far as possible, lay in all the needed supplies? You cannot order meat and vegetables a week ahead of time, but you can relieve yourself of the necessity of visiting the grocer, and be certain of having an ample stock of canned goods to fall back upon, and of having all the ingredients needed for cakes and puddings. Another tremendous saving of trouble is the habit of writing things down, of keeping lists of things to be bought, of noting the places to get certain articles, quantities required for certain purposes, little facts as to the wearing qualities of things or other economic advantages, names of workmen, of people who render special sorts of service. You may find an expense book nothing but vanity and vexation of spirit, but a household note book is an unfailing time saver. A habit of careful expenditure is worth all the household expense books in the world. If you have it not, you will not be assisted to it by knowing that in the month of January you used forty-seven pounds of sugar as against thirty-eight in the month of December. If you have the habit you will not require the information as the expense will have been a needed one and not subject to discussion.

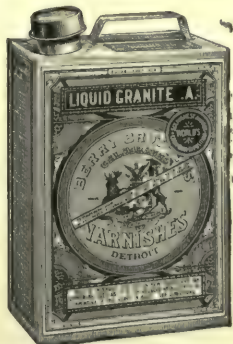


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Household Economics—Continued

But you may save hours of valuable time by being able to tell at a moment's notice what will set the color in lavender linen, or where the man who cleaned your Persian rug last year can be found.

As for the stitch in time, perhaps no woman requires to have the saying proved, only to be exhorted to its applications. Some of them are not precisely self evident. We do not always realize that the wear of a pair of shoes is indefinitely extended by having the heels straightened the minute they are run down below the first lift. How many people take a glove to a professional mender at the first tiny hole in the end of finger or thumb? Who has the tablecloths folded in three instead of four folds before the first break appears along the centre? How many people work eyelet holes in the tops of stockings to receive the destructive fastenings of the supporters? Does any one ever run the heels of a pair of silk stockings? Trifles all, yet the sum total is a big one in a year or two.

It is this sort of thinking ahead that distinguishes the good housekeeper from the poor one, that leaves a surplus at the end of the year instead of a deficit. And if the practice of such careful ways seems to result in very little, if the wheels still creak and lumber, consider how much worse things might have been without all our little cares, and look for results further on. No condition in life is stationary, nor is any immune from betterment.

Buying at Wholesale.

One of the lacks in our modern life is that of co-operation. Not that any number of people in any community are ever likely to find it practicable to have all things in common, eating at one table, having their clothes washed in one huge laundry, being cleaned from one vacuum plant. Arrangements of that sort are very fine on paper, but they involve an absolute annihilation of individuality, and

they presuppose a uniform standard of living. How shall A, who thinks the table the most important part of life, co-operate successfully with B, who believes in plain living and high thinking.

But groups of people here and there might co-operate to advantage in buying at wholesale prices. You cannot, I believe, in New York, buy groceries at wholesale. The wholesale houses make restrictions to protect the retailer. The best you can do is to get a reduction of about ten per cent on goods bought by the case and ordered through your own grocer. But it is otherwise with dry goods. To take the simplest illustration, cheesecloth retailing at five cents a yard costs, at wholesale, three and a half. Men who have the entree of the big houses can get even better prices. Table linens can be bought in this way for about sixty per cent of the retail price. Why should not a number of families make up a club to buy staples at wholesale? A dozen families could dispose of a good many bolts of sheeting and of muslin for underwear, with a very appreciable saving.

When it is not practicable to buy from the wholesale houses, a reduction of about ten per cent can be had by having one woman act as a shopping agent at one or more department stores. The large establishments make liberal arrangements of this sort and forward goods free of charge, while express or freight would have to be paid on goods bought at wholesale, so in the long run the difference would not be very great.

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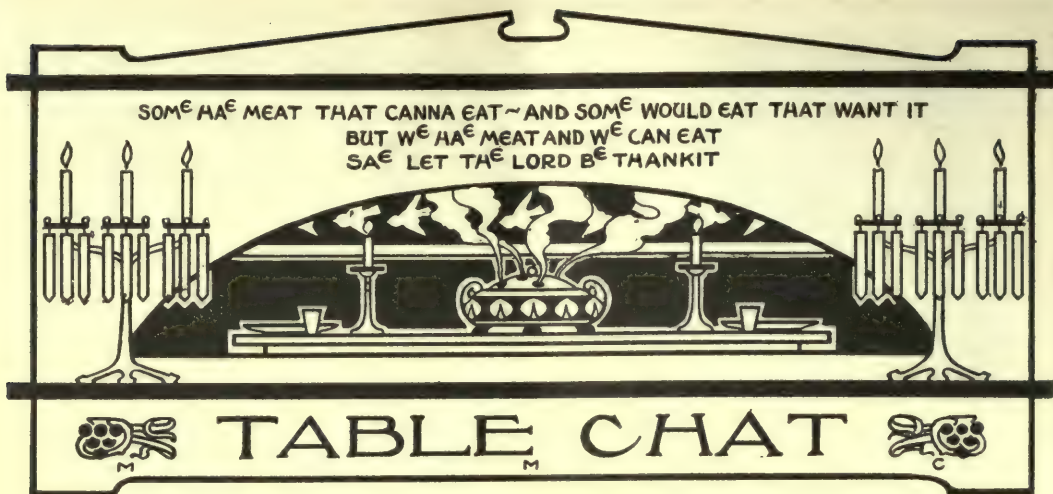
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Ribbons in Table Decoration.

While the fussy period of table decoration came to an end some years ago, and we have ceased to serve salad in finger rolls tied with pink ribbon, yet it is sometimes possible to use ribbons with good effect. It is always in order to have bunches of flowers tied with ribbon at the women's places at a formal luncheon or dinner, and nothing is as pretty for a child's party, or gives more pleasure, than a huge paper rose whose petals conceal little gifts with a ribbon streamer connecting each with the place for its future owner.

At a luncheon for only one guest the centerpiece was a low sage green basket, with a handle at one end, filled with pale pink roses. A wide sash ribbon in a blurred floral pattern in pastel colors, blue, pink and green, was knotted into the handle with a cleverly tied bow, one of the ends crossing the table and hanging over the table cloth at one corner in loose loops and ends.

Preserved Ginger as a Digestive.

The latest fad, although its followers consider it a valuable discovery, is the use of preserved or crystallized ginger at breakfast, as English people use marmalade. It is explained that the tired and stupid feeling so common in the morning results from the sluggish condition of the liver. The ginger excites the organ pleasantly, stimulating its action and its owner, giving the latter a cheerful outlook upon life, even at seven o'clock in the morning. It sounds rea-

sonable and might be worth a trial. Currants eaten with as little sugar as will made them palatable are said to have the same effect, but their season is limited, while ginger is with us all the year round.

An addition of crystallized ginger is a great improvement to many sorts of stewed fruit, pineapples, pears, or apples, or even peaches. After it is added the fruit, whatever it is, should be cooked very slowly at the side of the range, or in the oven, for a long time, that it may acquire the flavor of the ginger. Pears cooked in this way are hardly to be distinguished from the Chinese preserve. A very delectable combination is brown bread and ice cream served with ginger preserve, either the real or the imitation.

Class Day Spreads.

It would seem as if the last word had been said upon the subject of viands for occasions of this sort. Still there are variations possible even with salad and ice cream. People getting up this sort of thing ought to realize that their public is largely youthful and that abundance is of the first importance. One sandwich and a spoonful of salad may satisfy sixty, but not sixteen. Another consideration is the ease of serving certain things. If you can confine the necessary number of plates to two to a person, the silver to two spoons and a fork, you have simplified matters very much. All these things are of no moment if one employs a caterer, but a caterer's spread at a reasonable price is a mighty poor thing, and

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Table Chat—Continued

almost always misses any sort of distinction.

In making coffee for a large number have a sufficient number of tea kettles, rather than coffee pots. Not only is the coffee more easily poured from the small spout of the tea kettle, but it keeps much hotter. Have your coffee ground very fine and tie it up in cheese cloth bags. Allow a heaping teaspoonful to a cup and a half of cold water. After it has reached the boiling point let it cook for a minute, then turn the gas down and set an asbestos plate under the kettle.

Some Menus.

Devilled Eggs	Sandwiches	{ Green Pepper Salmon Cheese
Nesselrode Pudding	Coffee	Lady Fingers
Clam Bouillon		Wafers Cheese Straws
Salad of Jellied Chicken	Bread and Butter Sandwiches	
Frozen Pudding		Strawberry Jelly
Fruit Punch		Chocolate Frappé
Mayonnaise of Salmon	Olives	
	Bread and Butter	
Almond and Cocoanut Blanc Mange		Cake
Lemonade		

All three of these menus are easily managed and not expensive. Almost everyone has her own special seasoning for devilled eggs. Green pepper sandwiches are best when the peppers are

finely chopped and mixed with the creamed butter before spreading. A few drops of olive oil added before the top layer of bread is put on are a distinct improvement. Add a bit of paprika to the cheese filling. If you use American cheese flavor it with Roquefort rubbed to a paste.

Nesselrode pudding may be made very simply, or with much complication. For a simple sort boil the large Italian chestnuts, rub them to a paste, mix them with crushed maccaroons, whipped cream and a little pineapple syrup. Flavor with equal parts of almond and pistache extract. Freeze and serve in paper cases garnished with candied cherries.

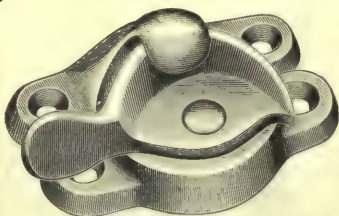
If you would have really good clam bouillon, you must use fresh clams. The bouillon which comes already prepared may or may not be a chemical preparation, but it has no perceptible relation to clams. More or less milk should be used in its composition and a spoonful of whipped cream on each cup is a pretty touch. Jellied chicken salad has the advantage over the ordinary sort in that it is possible to use all the chicken. Mould it in a long and narrow pan and serve a slice laid upon lettuce leaves and garnished with olives, slices of hard-boiled egg and mayonnaise.

For frozen pudding, make a soft custard, using three eggs to a quart of milk, as many scant teaspoonfuls of flour and three tablespoonfuls of sugar. When it is cold stir in candied fruit cut fine, flavor the mixture highly with rum, and freeze. Serve in paper cases, if you will, or in sherbet glasses with a spoonful of jellied strawberries at the side. The latter are merely strawberry preserves set with gelatine,

The almond and cocoanut blanc mange of the third menu is a gelatine blanc mange flavored with bitter almond. Into half of it freshly grated cocoanut is stirred, into the other half crushed maccaroons. It is set in four layers, alternately cocoanut and almond, and served very cold with whipped cream and some sort of delicate cake. The lemonade of this menu is made with Ceylon tea instead of water, and is to be served in glasses, unsweetened, sugar being passed with it.

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Jones Sidewall Registers insure perfectly working warm air heating plants and greatest amount of heat from a given quantity of fuel. The many testimonials we are receiving is evidence of the favor with which these registers are being received.

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GENTLEMEN: Your registers in our opinion are twenty years ahead of anything else on the market.
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Only WATERPROOF can provide permanent protection. Compare a sample of

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See that Your Doors are hung with

**STANLEY'S
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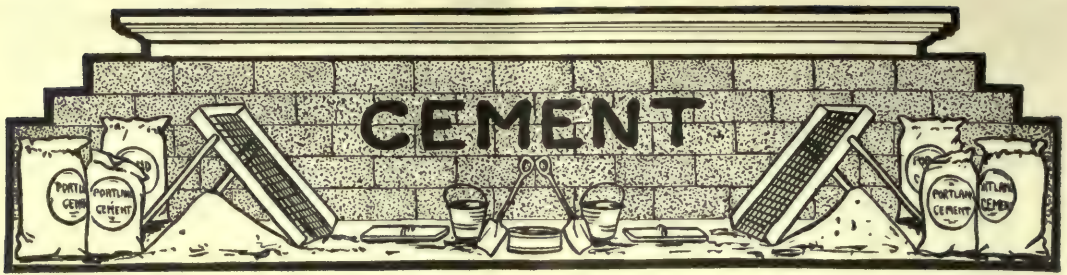
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Cost of Small Concrete Houses.

The use of concrete for small buildings presents a vast field for operation. Its use for larger buildings has proven its efficiency, and is attracting the attention of men interested in the building of homes.

The question of cost is naturally of great importance to such men.

Frame construction is of such a character that its cost has a considerable range depending on the manner in which it is put up, but a first-class frame house will cost more than concrete.

Brick construction will cost for a 13-inch wall from 36 cents to 50 cents per square foot of wall, and a 9-inch wall will cost from 25 cents to 35 cents per square foot of wall. To these figures must be added, for the finished wall, cost of

furring, lathing and two brown or scratch coats of plaster and the white coat.

Hollow tile construction, which has an advantage over brick, by reason of its air space, averages about the cost of brick, or a trifle under.

The cost of block construction is from 18 cents to 35 cents per square foot of wall, having a thickness of 8 to 12 inches, inclusive. For the finished wall and the cost of the white finish coat, which is put directly on the concrete, thus saving the cost of furring, lathing and plaster.

A hollow reinforced concrete wall will cost from 15 cents to 25 cents per square foot of wall, plus the finish coat.

A six-inch wall, with furring, lathing or metal sheathing, will cost 11 cents to 18 cents per square foot for the concrete, plus the furring, lathing and plaster.



A private swimming tank is a luxury until recently considered prohibitive in cost for most people.

A concrete swimming tank is shown recently built by James O. Heyworth at his summer home near Lake Forest, Ill. Although located only a few hundred

yards from the shore of Lake Michigan, the advantages of a private tank were sufficient to influence Mr. Heyworth to construct one for himself.

The ground around the tank is nicely sodded and the shrubbery surrounding it furnishes a natural screen.



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Chestnut Hill, Pa.; J. Owens, Philadelphia, Contractor

Asbestos "Century" Shingles

"The Roof that Outlives the Building"

THE life of your building depends more than you realize on the *integrity of its roof*. You never know when or where a weak roof is going to give way—spring a leak—or catch a spark from a neighboring fire.

Asbestos "Century" Shingles are a permanent protection to your building.

The first practical roofing made of *reinforced concrete*. Hydraulic cement reinforced in every direction with interlacing asbestos fibers. Formed into shingle-like sheets, compacted by tremendous hydraulic pressure.

Weather cannot deteriorate them. Fire cannot burn them. Time cannot affect them. Asbestos "Century" Shingles cannot rot, rust, split, crack or blister.

They have *proved* themselves under every climate, on buildings of all kinds throughout the world.

You can get Asbestos "Century" Shingles in three colors—Newport Gray (silver gray), Slate (blue black) and Indian Red—in numerous shapes and sizes. Ask your Roofer for new quotations and send for Booklet, "Reinforced 1910."

The Keasbey & Mattison Company

FACTORS

Ambler, Pennsylvania

Cement—Continued

Two-inch partitions will cost 16 cents to 20 cents per square foot. Concrete floors cost from 25 to 40 per cent. more than wooden joist construction.

Properly constructed, artistically finished concrete homes will, in the writer's opinion, find ready acceptance when it is realized that they are permanent, fireproof, and can be erected at moderate cost.—The Architect and Engineer.

Wood Frame Reinforced Concrete Construction.

San Francisco underwriters have adopted a new type of building construction which is creating much interest among architects, builders and real estate men. The type was originated by John C. Pelton, architect, who estimates the cost at about 15 per cent greater than ordinary frame construction, but at least 5 per cent less than common brick construction.

The building consists of a heavy frame of wood encased in reinforced concrete walls of four inches thickness, anchored to the frame at each story. It is in fact a wood frame in place of a steel frame, and the heavy timbers support the floors and roof independently of the walls, which are merely curtain walls. There are wood columns and girders, and upon the girders, after they are covered with fireproof material, the wood joists are laid 16 inches on centers. Instead of board flooring, blocks composed of cement, plaster of paris and cinders, are set upon the joists, so that the floors are fireproof. The partition walls are made of similar blocks, made of staff and held in place by reinforcing rods.

In no place does wood touch wood in the building. The frame may be erected as steel frames are put up, and later the walls are built and the floors set in. The principle is the same as that of the steel-frame building, in which the floors are supported by the frame, independently of the walls. The inventor believes that the favorable attitude of the underwriters may result in allowing this type of construction to be used within the fire limits.

The Extensive Utilization of Concrete Blocks in Scotland for Building Purposes.

Two years ago the merits of hollow concrete-block construction were hardly known in Scotland. Since then a number of tenement houses, cottages and villas have been erected with these blocks in and near Glasgow, the experiment convincing the builders that they cost less than stone for buildings, are equally as substantial, and more pleasing to the eye. For centuries stone has been the chief building material in Scotland and the finest skilled labor has been employed in stone construction. With the introduction of concrete-block machinery, it has been demonstrated that the blocks may be turned out with ordinary labor, and that the machine is comparatively inexpensive and easy to operate.

A Glasgow dealer has secured the agency for an American concrete-block machine and has already sold a large number of them. This dealer is enthusiastic over the prospect, and states that there is a great future for concrete-block building in Scotland, and now that the first step has been taken others will follow by using this material for every class of building. Within slightly over a year's time there have been constructed in or near Glasgow approximately \$150,000 worth of new concrete buildings.

It is claimed that the American machines tried so far are more efficient than those of British or other make, and that they can be sold here at a price that will fully meet all competition. In view of this, and that concrete-block construction bids fair to become a large factor in building operations throughout Great Britain, it would seem that there is an excellent opportunity for American manufacturers of cement and concrete molding machinery.

Current Items.

Our readers will be interested in articles entitled "Structural Concrete Homes," by Milton Dana Morrill, in the April issue of "Concrete Engineering," and "Concrete in the Garden."—Suburban Life, March.



H. B. RUSSELL, ARCHITECT, BOSTON.

For the outside walls of plaster, concrete or cement houses

DEXTER BROTHERS' Petrifax Cement Coating

preserves the texture, prevents any dampness from working inside, and produces a uniformity of color. Petrifax Coating is manufactured from a mineral base, ground as fine as modern machinery will allow. This base is carried into the pores of the concrete, plaster or cement by a volatile liquid, which readily evaporates, leaving a hard surface which will not crack, chip or peel off.

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"Concrete Houses and Cottages"

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Atlas Portland Cement is pure; is made from genuine Portland Cement rock; contains no furnace slag and has the quality needed to produce permanent, satisfactory concrete construction

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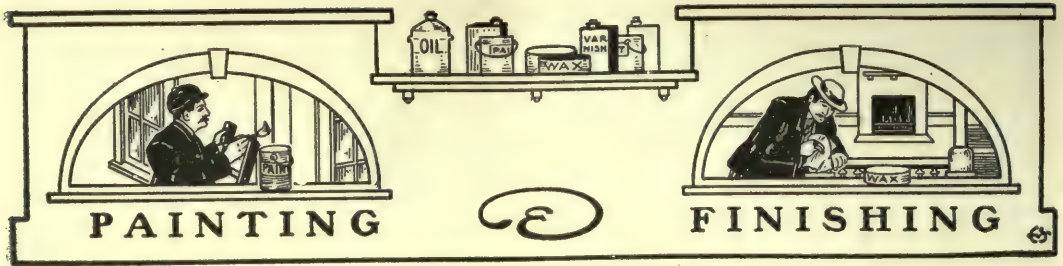


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Largest output of any cement company in the world.
Over 50,000 barrels per day



Skim Milk Paint.

The Scientific American, in recommending skim milk for painting, gives the following directions for making it and some results from its use. It says:

"Stir into a gallon of milk about three pounds of Portland cement and add sufficient Venetian red paint powder to impart a good color. Any other colored paint powder may as well be used. The milk will hold the paint in suspension, but the cement, being heavy, will sink to the bottom, so that it becomes necessary to keep the mixture well stirred with a paddle. Mix only enough at a time for one day's use. Six hours after painting this paint will be as immovable and unaffected by water as a month-old paint. Cases are on record of this sort of paint being in good condition after 20 years and it has preserved the wood admirably. The addition of carbolic acid or some other disinfectant makes it very suitable for dairy work, as it then has a cleansing effect.

Paints That Will Resist Fire.

The "Painter's Magazine," speaking of paints for interior woodwork, says that experience has shown that paints consisting mainly of linseed oil, driers, and pigments, are not fire-resisting, and certainly not fireproof. Repeated coatings of silicate of soda, however, will add to their safety. Three coats of silicate of soda, 33 degrees Beaume, should be applied to the wood, and before the last coat has set hard, thin lime wash should be added, which will unite the silicate of soda, forming silicate of lime, which is an insoluble substance.

Another fire-resisting water paint consists of the following ingredients: Eighty pounds powdered silex, 40 pounds bolted china clay, and 20 pounds air-slacked lime, mixed with 60 pounds liquid silicate of soda, 33 degrees Beaume, and then

thinned to painting consistency. It may be colored with any earth color, such as ochre, umber, sienna, or red oxide, but not with chemical colors. Two coats of this paint are necessary in the application. If the paint is to be pure white, add, in place of any color, sufficient dry zinc white, using additional silicate of soda in the first mixing.

Why Good Paint Sometimes Fails.

First: Cheap, poor lumber under it.

Second: Moisture, sap, soot or grease under it.

Third: Non-drying pigments like ochre, metallic, etc., used in priming.

Fourth: Non-drying oils, or oily, fatty, non-drying paint used in priming.

Fifth: Because flowed on with a broad, thin, flat brush, instead of being rubbed out well with a good full round bristle brush.

Sixth: Because of an insufficient quantity on a given surface. Two thin coats of paint will not wear well.

Seventh: Not allowing enough time to dry between coats.

Eighth: Excess of oil in under coats, especially the middle one in three-coat work.

Ninth: Carelessness or lack of judgment in methods of application.

Tenth: Thinning too much with oil turpentine, etc., to save labor and cost of material.

Eleventh: Damp plastering when paint is applied.

Painting a Cement Wall.

The following method of painting a cement wall was described at a recent convention of Canadian master painters. The building had become discolored in places, and the joints were of different color from the surface of the blocks. Two parts of Portland cement, together with one part of marble dust, were mixed with water to the consistency of thin paint or

New Roofing Discovery

Works Wonders in Beautifying Home!



For Simplest and Grandest Homes

CHARMING Moorish beauty and dignity of appearance of Metal Spanish Tile gives an air of distinction to the home graced by this wonderful new and practically indestructible roofing.

It has taken home builders of America by storm, for it is the modernization of the wonderfully beautiful roofs of historic Spanish edifices.

The art of making this roofing, left behind by fleeing Moors driven out of Spain centuries ago, until 1910 could not be made practical for the modern home, despite its alluring beauties.

After years of experiment, we have hit the solution. That is why today we are able to offer American homes the amazing attractiveness of

Metal Spanish Tile Roofing

Its scores of vital, practical advantages cost no more than common roofing, yet mean tremendous economy—it needs no repairs and outlasts several ordinary roofs because of its practically indestructible metal construction.

It is absolutely wind, weather, storm, fire and lightning proof.

Easy to apply. No soldering, no special tools—any ordinary mechanic can apply it. Interlocking system by which tiles dovetail into each other makes the roof absolutely water tight and provides for expansion and contraction perfectly—summer and winter. It is guaranteed non-breakable.

HOMEBUILDERS—Simply send us today the dimensions of your building and we will tell you by return mail exact cost of all material. Our new 1910 book on beautifying the modern American home by use of **Metal Spanish Tile** is yours for the asking. A postal will bring it. Address

The Edwards Manufacturing Co.

The Largest Makers of Steel Roofing
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Exact Tints From Pure White Lead Paint



ONLY by mixing paint to order can all gradations of tint be obtained.

¶ One advantage of using pure white lead and linseed oil, and tinting the paint at the time of making, lies in the fact that the most minute variations of color may be secured. Another advantage is the permanency of these tints. They will not fade or wash out.

¶ Furthermore, any kind of finish may be secured with pure white lead paint by changing the liquid constituents (oil, turpentine or varnish), giving dull, glossy or enamel surfaces.

¶ For all painting, interior or exterior, specify pure white lead ("Dutch Boy Painter" trade mark). The "Dutch Boy Painter" is the guaranty of white lead purity and reliability.

¶ Send for our "Dutch Boy Paint Adviser No. KE" and learn *why* pure white lead paint, mixed fresh with pure linseed oil at the time of painting, is the most satisfactory and most economical paint to use. Booklets on home decoration and landscape gardening included. All free.

Our Pure White Lead ("Dutch Boy Painter" trade mark) is now packed in steel kegs, dark gun-metal finish, instead of in oak kegs as heretofore.

National Lead Company

An office in each of the following cities:

New York Boston Buffalo Cincinnati Cleveland
Chicago St. Louis
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(National Lead and Oil Company, Pittsburgh)

Painting and Finishing—Continued

a thick whitewash. The wall was well wetted before the application of the paint, and kept constantly wet while the material was applied, and then kept for a day in order to make the cement wash adhere to the cement surface. The wash was applied with ordinary whitewash or kalsomine brushes, and a man was kept busy playing a spray on it while the work was being done. The whole secret of success lay in keeping the wall constantly wet.

NEW ANTISEPTIC PAINT**German Invention Tested by Imperial Government.**

Consul Thomas H. Norton, writing from Chemnitz, says that in the warfare which is being waged so persistently against tuberculosis in Germany, increased attention is being devoted to paints and washes which may be applied to walls, etc., and which possess in a greater or lesser degree the power of destroying germ life. He gives the following example:

In a recent number of the publications of the German health office, a report appears with very full details regarding the tests applied to the new pigment called vitralin, a highly lustrous paint which can be applied to surfaces with the same ease as ordinary paints with a basis of white lead, or zinc white. Its chief value is for disinfecting, and it is prepared and sold more specifically for use in rooms, etc., where it is desired to combat pathogenic germs. In this respect it seems to be far in advance of all the ordinary substances applied to walls, containing lime or lead compounds.

The importance of such an agent, in connection with modern sanitary appliances for destroying the microbes of disease, led the health office to make somewhat exhaustive tests of the germicidal properties of vitralin under varying conditions. The results may be briefly summarized as follows:

When in contact with a vitralin coating, the bacilli of tuberculosis (as found in saliva) are completely destroyed in 3 days. Diphtheria bacilli require 5 hours typhoid bacilli 8 hours, and those of pus (staphylococci and streptococci) from 6 to 13 hours. On the contrary, no lethal effect could be observed upon the spores

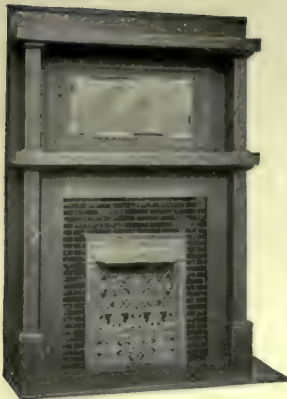
of anthrax, even when the contact lasted 30 days, although a distinctly retarding influence upon the development of the spores was noticed. Control experiments carried on simultaneously with surfaces covered with ordinary oil colors, whitewash, etc., showed either no germicidal power or a much less degree of efficacy.

Direct sunlight renders the lethal action much more rapid than when it is carried on in diffused daylight. The material upon which the coating is applied exercises no appreciable effect. The same results were secured when the pigment was spread over glass, porcelain, brick and wood. The disinfectant property remains for a considerable time in the coating of paint, although after the lapse of a year it was found to be distinctly weaker—i. e., a longer time was required to bring about complete destruction of bacteria.

The investigator came to the conclusion that the specific disinfectant property of vitralin results from the oxidation of the linseed oil which forms an important constituent of this paint, as of most paints. Further, this oxidation is dependent upon the presence of a certain degree of moisture, and, naturally, of oxygen; and warmth as well as light is an important factor in favoring the formation of the active germicidal agent. This property of vitralin is likewise unaffected by prolonged exposure to powerful antiseptic agents, such as corrosive sublimate, formalin, kirsol-sulphuric acid, etc.

The conclusion of the officers of the Imperial Health Office is that vitralin furnishes a highly valuable addition to the weapons employed in combating bacterial disease, and that it can be most advantageously employed in all rooms, etc., where germ life is liberated, consumptives' sanatoria, wards for infectious diseases, and the like.

Attention is called to the fact that the presence of such a wall coating as vitralin does not necessarily supercede the use of the customary disinfection methods now legally obligatory. There is, however, a distinct advantage in having a continuous destruction of disease germs maintained, whenever they come in contact with the walls of an apartment during its temporary occupancy by a person affected by an infectious disease.



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Furnished with round or square columns, full length or double as shown in cut. Dealers' price not less than \$40.

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For this elegant, massive selected oak or birch, mahogany finished mantel

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TO YOU"**

Price includes our "Queen" Coal Grate with best quality enameled tile for facing and hearth. Gas Grate \$2.50 extra. Mantel is 82 inches high, 5 feet wide.

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are distinctive in workmanship, style and finish and are made in all styles—Colonial to Mission. CATALOGUE FREE—Will send our new 112 page catalogue free, to carpenters, builders, and those building a home.

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We are makers—not dealers—and will save you all middlemen's profits. No room for more details here. Write today for free 48-page booklet which tells all about it.

Your name and address on a post card is sufficient.

HESS, 717 Tacoma Bldg., Chicago



No. 45
"Leader" Hess
Steel Furnace
Price \$49

Delivered East of Omaha and
North of Ohio River
Pipe and Scaffolding Extra

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MAPLE AND
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FLOORING**



Selected Red Birch
Bird's-eye Maple and
Cherry Flooring

Q One important feature is the wedge shaped tongue and groove which enters easily, drives up snug and insures a perfect face at all times without after smoothing, an advantage that is not obtained by any other manufacture.

Our method of air-seasoning and kiln drying has stood the test for twenty years.

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HERMANVILLE, MICHIGAN



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How do you make sure you're getting the *right* paint? "They say," if you use White Lead and Oil you know just what's in your paint—But, there are a good many grades of white lead, and frequent adulterations.

Then there's boiled oil, and raw, cold-pressed, hot-pressed and steam-pressed; "aged" and "green" and a big difference in flax-seed, and danger of adulteration.

So, how are you going to *know*?

You *can't*—neither can your painter. Then, *after* you get your materials, you've got to take chances on proper mixing.

You can't be very cock-sure about that *kind* of paint.

But you can be absolutely sure of

**Lowe Brothers
High Standard
Liquid Paint**

All-ready-for-the-brush—

When you use Lowe Brothers High Standard Liquid Paint—you know far more about it than merely "what's in it,"—you can be absolutely sure of just what it will do—

It is a paint so perfectly *ground*—the oil and the pigments so perfectly *combined*—that it *works* better and *spreads* better—covers from 50 to 100 more square feet to the gallon—and *lasts* years longer than ordinary paints.

There's a High Standard Paint for every purpose—Linduro, Mellotone, Vernicol, Enamel White and Interior Enamel are among them, and are just what you need for beautiful rooms. Write for booklet—"Common Sense about Interiors."

THE LOWE BROTHERS COMPANY

450-456 E. Third St., Dayton, Ohio.
Boston, New York, Chicago, Kansas City



W. A. C.—I wish to build a house 28x36, two stories high, in the earthquake district south of San Francisco. I wish to use concrete for walls but do not like the monotony of plain plaster or smooth wall made in the common form. I contemplate using a frame as for ordinary wooden structure, well braced, and cover sides with narrow cheap lumber, and veneer this with concrete blocks made with cores only part way through from inside surface. For re-enforcing use $\frac{1}{8} \times 1\frac{1}{2}$ inch galvanized iron straps laid in the seams, these straps to be fastened to studding by hooks of same material caught over straps and passed through siding and nailed to studs.

The outer surface of blocks—open side of mold—to be beveled on sides and ends and a portion of them—by heaping the plaster on mold—to be tooled to resemble rough stone. These smooth and tooled surfaces to be alternated on corners of building, around openings, or otherwise to produce an artistic effect. Is such a wall and such form of blocks practicable, and could the blocks be cast in wooden molds? If not, why not?

Ans. W. A. C. by A. U. Miracle.—This scheme may be worked out all right, but the best I can say for work of this character, that I have already seen, is that it gives the worst impression of the concrete block business and the worst black eye to it of anything that I know of. That is, I mean to say, a combination of wood and blocks, or half blocks, does not seem at all practical.

In Iowa, a few days ago, I saw a building, covering the width of two lots, on a corner, running clear back to the alley on the side, which was a wooden building with a thin concrete block veneer. Of course, it was a poor job in the first place—the blocks were poorly made and poorly laid. It was certainly the worst look-

ing attempt at concrete construction that I have ever seen.

I would advise your correspondent to use either a full size concrete block for his walls, and by using a smooth faced block, he can get a plaster finish, if he so desires, or get almost any effect he wants. On the other hand, if he wants a cheaper building with a cement finish, he better use studding with metal lath and give a plaster finish on that.

I find, where a poor impression of concrete blocks has been made by work done, that a reason can always be found very readily for it. Concrete block manufacturers do not exercise enough care in the selection of their material. They seem to have an idea that sand and cement mixed up alone, with enough water to make it stick together, when tamped, is concrete, which is an entirely erroneous idea. A good concrete contains plenty of coarse aggregate, such as fine gravel or crushed stone and should always be made just as wet as it will stand alone when removed from the mold. Again, it should be thoroughly tamped, well cured and the same amount of care used in laying it that would be used in laying other material. When these simple rules are followed, a concrete block can be produced, which is both beautiful in appearance and as substantial as anything can be desired.

Bonding New Concrete to Old.

A. J. R.—I am about to make some additions to a concrete structure and am in some doubt as to my success in making a broken bond between the old and new work. Can you advise me as to the proper method of procedure.

A. J. R., Ans.—Quoting from the writings of Albert Moyer, Assoc. Am. Soc. C. E., we offer the following:

Clean off with clear water and stiff broom the surface of the old concrete. Mix 1 part commercial muriatic acid or

ACME WOVEN WOOD LATH

Is the Acme of Perfection
For Home Builders.

The U. S. Government uses it--
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NOTABLE EXAMPLES OF

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"THE HOUSE BEAUTIFUL" is an illustrated monthly magazine, which gives you the world's best authorities on every feature of making the home beautiful.

It is invaluable for either mansion or cottage. It shows you wherein taste goes farther than money. Its teachings have saved costly furnishings from being vulgar; and on the other hand, thousands of inexpensive houses are exquisite examples of superb taste from its advice. It presents its information interestingly and in a very plain, practical way. Everything is illustrated.

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ELLEN M. HENROTIN,

Ex. Pres. Nat. Federation of Women's Clubs.

Its readers all say it is a work remarkably worthy, thorough and useful. The magazine costs \$3.00 a year.

But to have you test its value, for \$1.00 we will send you the current number and "THE HOUSE BEAUTIFUL" Portfolio gratis, on receipt of the Five Months' Trial Subscription coupon. The Portfolio is a collection of color plates and others of rooms in which good taste rather than lavish outlay has produced charming effects. The Portfolio alone is a prize which money cannot ordinarily purchase. Enclose \$1.00 with the coupon filled out and send to

HERBERT S. STONE, Publisher of THE HOUSE BEAUTIFUL



A "House Beautiful" illustration greatly reduced

THE HOUSE BEAUTIFUL, 238 Michigan Ave., Chicago

You may send me your Portfolio of Notable Examples of Inexpensive Home Decoration and Furnishing, and a copy of the current issue of "THE HOUSE BEAUTIFUL." I enclose herewith \$1.00 for a special rate five-month trial subscription to the "THE HOUSE BEAUTIFUL."

NAME

ADDRESS

TOWN OR CITY

STATE

Answers to Questions on Construction—Continued

hydrochloric acid and 3 parts water, or use bonisit or ransonite, mixed according to directions with hot water, make several applications one after another with a brush containing little or no metal. This will not injure the concrete as the acid does not sink to a sufficient depth before it is neutralized.

This will have the effect of removing the cement from the top surface of each grain of sand or piece of stone and the other aggregates that may have been used, exposing the clean surface of these aggregates in exactly the same condition as they were before being mixed.

After applying the acid wash the surface with clear water, scrubbing with a stiff broom or brush removing all the dead particles. While the surface is still wet (and it should be thoroughly wet) apply the new concrete. Protect this new concrete by keeping it damp for at least a week. Do not let it dry out at any time during the first week.

It will be found that the new concrete will bond to the old as strongly as if both had been mixed at the same time.

Mrs. O. B.—We are building a frame house 27x31 and have a concrete porch—along the front and around the side in a half circle. The cornice on house is 2½ ft. wide. How wide should the cornice on the porch be? It is 10 ft. wide and 8 courses of blocks form the height.

Ans. O. B.—You do not state exactly what kind of a cornice you are using on your house. Your carpenter could give you the right terms to employ in explaining it. If it is of the hanging cornice variety, which I think it must be from the two and one-half foot projection, I would say that a similar cornice on the porch should be two feet. On the contrary, if it is a box cornice it should be about twenty inches, the more classic detail conforming to fixed rules.

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—Duluth Herald.

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ARCHITECT



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Street No. _____

Keith's, June, '10.



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The Refrigerator Waste.

In various apartment houses and flats refrigerators are, to say the least connected in an exceedingly neglectful manner. It may be put down for a sanitary truth that no waste pipe running from a refrigerator should be connected directly to the system of plumbing. A separate trip pan should be provided, which, trapped and vented, may be connected with the soil pipe. Now under the refrigerator may be placed another pan, which, trapped, may have the open end of this pipe dripping into the pan or sink which is connected to the sewer system. This first pan should be provided with a strainer for obvious reasons. The trap upon the pan directly under the refrigerator does not require venting, but should be provided with a clean out. It may be stated that in a building of several stories in height, where there is a refrigerator upon each floor, and these are all connected into one line of waste pipe, each refrigerator should be trapped separately, and that it is not good practice to drip this line around the premises near the back porch nor upon the cellar floor. It is the practice in many cities to run these waste pipes of galvanized iron, the size for same being one and a quarter inches for two floors, while a four-story line would call for a two-inch size of pipe.

Care of Radiators.

One source of constant annoyance and expense is the discoloration of the walls and ceilings directly over and behind the steam or hot water radiator. This is due, in the case of direct radiation, to the current of dirty air that is constantly passing over the radiator. The air contains a fine dust and dirt imperceptible to the eye, which is in due time deposited all along the wall where the air current strikes and the result is a streaked smoked-up and unsightly appearance of

the walls in that vicinity. When proper precautions are taken this nuisance and unsanitary state of affairs can be avoided. One of the easiest methods is to use some reliable radiator shield and this will have the effect of changing the air currents in the room in such a manner that the walls will not be rendered unsightly and an eye-sore to the tenant. The duty of this radiator shield can be made very much lighter and effective if the rooms are cleaned with a reliable vacuum cleaner, which will entirely remove the dust from the room instead of stirring it up and filling the air with the germs that may have been carried into the room from the street, upon the shoes of the people who enter. The amount of heat thrown off by the radiator can be somewhat increased by having them decorated with the proper material. The recent practical tests conducted by a thoroughly reliable institution have proved that bronze is the most expensive material to apply to radiators for decorative purposes. Not only does it soil more readily, but radiators so covered will not throw off as much heat as they will when painted with various other substances. It has been proved by experiments which cannot be doubted that when the radiators are enameled or painted they give off more heat than when bronzed. It was even demonstrated that a bronzed radiator covered over with enamel will radiate more heat than when only covered with the bronze. These experiments seem to show that the heat radiated from the radiator did not depend upon the thinness of the material covering the radiator, but did turn upon the radiating qualities of the material applied. In the tests previously spoken of, terra cotta enamel, light green paint and white paint containing zinc were found to render the radiator capable of throwing off more heat than when it had been covered with bronze.

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DETROIT Combination Gas Machine



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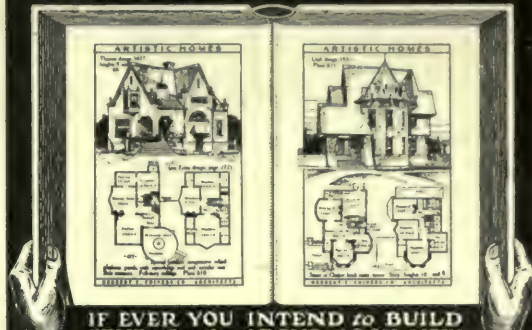
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need not cost any more than the most commonplace, but it requires unusual taste and expert knowledge of color effects. We will furnish you an original color scheme which will suit your individual needs, if you will send us a pencil sketch of your house plan or describe arrangement of rooms, giving color of woodwork and purpose of each room. Our charge for this service is

ONE DOLLAR

On receipt of your remittance, we will promptly forward complete color scheme suitable for tint, oil or paper treatment, showing color for each room. Money gladly refunded if color scheme is not entirely satisfactory.

Send for our Bungalow Andirons, \$10 a Set.

Cuts furnished on request.

INTERIOR DECORATING CO.

1219 Corn Exchange Bank Bldg. CHICAGO



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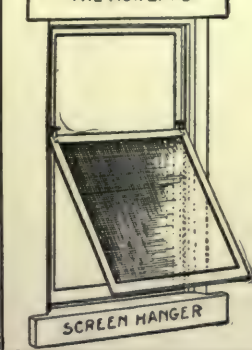
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is best secured by the Ashley System. Don't allow disease germs to breed in open drains or in cesspools at your country place.

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Mr. Builder

Did you ever figure out how much time your carpenter consumed in putting up screens the

"Old way" with hinges, spring butts or slides? It may be a small item, but as the screening of your house is about the last thing to be done, you are usually ready to "economize on screens."

Use Rowland Hangers

and save a great deal of the old method expense — You can still come within your "appropriation for screens" and have not economized at the EXPENSE OF QUALITY.

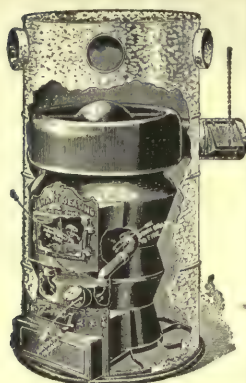
Rowlands ALWAYS give satisfaction. \$1.00 buys complete fixtures for 12 screens, of any Hardware or Builders supply dealer, or

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saving you all of the dealer's profit and giving you a built-to-order heating plant at a small advance over factory cost. The

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is the most efficient furnace ever built. Gets more heat out of the coal and is easier to regulate because it has the patented "down draft" feature. Burns wood, hard or soft coal, and consumes every particle, leaving no

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With each outfit we supply special plans, full directions and all necessary tools (free) so that any man of moderate intelligence can easily do the installing. Each outfit is also accompanied by a **360-Day Guarantee Bond**, by the terms of which we agree to take the furnace and refund your money if a year's trial does not convince you that it is the best furnace you ever used.

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Heating and Plumbing—Continued

The steam or hot water valves which feed the radiator should be carefully packed, unless they are of the packless variety. This can be done with either asbestos or candle wicking. A dozen leaky supply valves on a steam job in a building will waste many pounds of steam in a season, besides damaging ceilings and discoloring the valves. The air valves should be properly adjusted. Automatic valves constructed in such a manner that they cannot be tampered with are cheapest and much more satisfactory. The radiator should never be turned on suddenly against a heavy head of steam.

How to Cure "Sweating" Pipes.

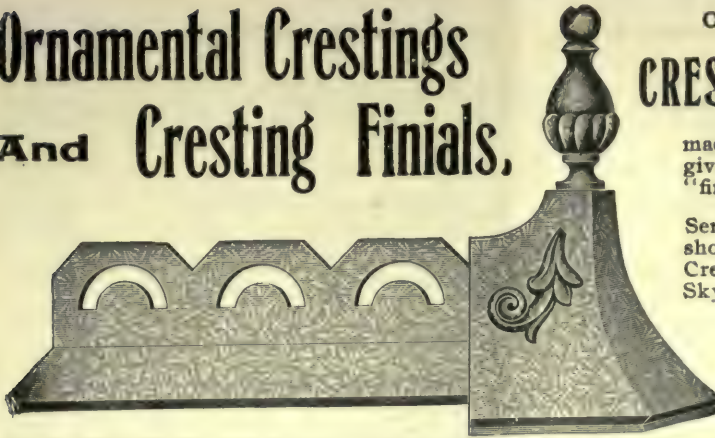
One of the nuisances found in rooms where the cold water supply pipe is exposed, is the water which drips from the outside of this pipe on certain days in the summer season. We say, "the pipe sweats." This may be easily stopped by covering the pipe in such a manner that the air will not come in contact with the iron. The air contains moisture which is precipitated upon the cold pipe and as the water in the pipe renders it several degrees colder than the surrounding air we naturally have the precipitation or sweating. A cheap and effective way to prevent this is to paste several thicknesses of newspapers around the pipe, and if a finished job is desired muslin cloth may be placed outside of the newspapers. Regular pipe covering, however, is better and can be applied much more quickly. Hence if time be any object and the amount of exposed pipe large, the regular pipe covering would be cheaper, labor considered.

Why Do These Bowls Crack?

During the past two or three years we have had occasion to set several closet bowls on cement floors and have noticed that many of them crack. Can you, or any of the readers of your paper give any practical reason why this is so.

We should consider that it was fair to assume that this condition resulted from too much solidity. The writer once had a similar case and when he set the new bowl used a patent floor flange and cut a rubber gasket for the rim of the closet instead of using putty only and I never heard that the second bowl ever cracked. —Building Management.

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OUR CRESTINGS and FINIALS,

made of galvanized steel, will give your roof an everlasting "finishing touch."

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Manufacturers of the Willis Hip Shingles.

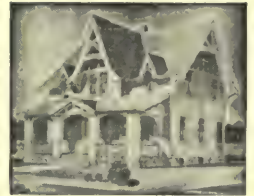
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"BEST HOUSE PLANS" is my book of 200 modern homes—full of ideas, showing new architectural work. Designs which are unique for homes costing \$500 to \$6,000. Send **NOW** for this *cautiful* book, **Price \$1.00.** New, large and improved 8th edition just off the press. To those interested, a New Book of Churches **FREE.**

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Bevel Mirror, four elaborate capitals.
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LA CROSSE

SPLINTERS AND SHAVINGS

Fine Building Outlook.

With an 89 per cent gain in construction for March, as reported by the American Contractor, and an excellent start early in April, the totals for 1910 look big to the prophets of a great building summer for Minneapolis.

The Contractor calls attention to the fact that a decrease in New York of some \$5,000,000 is made good by the combined efforts of Chicago, Philadelphia, Minneapolis, Portland, Ore., and Rochester.

Weight of Building Materials.

The following convenient table of the approximate weight per cubic foot of various building materials is furnished by a leading architect and consulting engineer:

METALS.

	Weight.
Bronze	552
Copper	550
Iron, cast	450
Iron, wrought	480
Lead	712
Steel, structural	490

TIMBER.

	Weight.
Cedar	23
Chestnut	41
Cypress	29
Fir	32
Hemlock	25
Oak, white	50
Pine, white	24
Pine, yellow	35
Spruce	25

MASONRY.

Asphalt	130
Blue stone	160
Brick in lime	120
Brick in cement	130
Cement, Portland	90
Concrete	140
Gneiss	160
Granite	165
Gravel	120
Limestone	170
Marble	165
Sandstone	145
Slate	170
Terra cotta	110
Tile	115

Notes on Prices.

Below will be found a schedule of current prices of labor and building materials in Minneapolis at the time of going to press with this issue. If the readers of KEITH's will kindly send in to us a like

schedule, quoting the prices in their localities, we will be pleased to publish same for the mutual benefit of all readers in the various sections of the country.

LABOR.

Carpenters, hour.....	45 c
Stone Masons, hour.....	55 c
Bricklayers, hour.....	65 c
Plasterers, hour.....	62½c
Laborers, hour.....	20 to 30 c

MATERIALS.

Brick, common del.....	Per M. \$7.50
Lime, brown	Bbl. .65
Lime, white	Bbl. .80
Cement, Portland	Bbl. net 1.50
Cement, bricklayer (Carney's) Bbl. del.	.75
Plaster, calcined	Per ton 8.00
Hair, 8 pounds per bu.....	.30

HARDWARE LIST.

Nails, wire, common.....	\$2.40 cwt.
Nails, wire, fine finishing.....	2.40 cwt.
Sash weights, cast iron.....	1.50 cwt.
Tarred Felt Paper, best 2-ply.....	\$1.50 cwt.
Tarred Felt Paper, best 3-ply.....	1.50 cwt.
Black Neponset, per roll, 500 sq. ft..	2.25

DIMENSIONS, LUMBER.

	M ft. BM
	S 2 S
2"x4" to 8" up to 16', No. 1.....	h \$25.00
2"x4" to 8" up to 16', No. 2.....	22.00
2"x4" to 8" 18 & 20', No. 1.....	25.00
2"x10" up to 16', No. 1.....	25.00
2"x12" up to 16', No. 1.....	26.00
2"x14" up to 16', No. 1.....	29.00
Each ft. over 20 ft., add per M.....	2.00
Select stock as above, add per M.....	5.00

EXTERIOR FINISH, ETC.

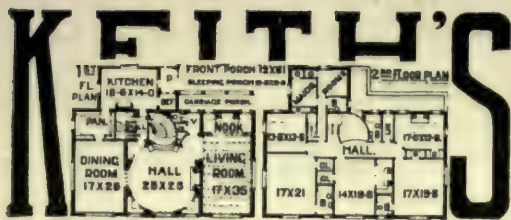
	M ft. BM
	D 4 S
1"x3" to 1"x8", No. 1.....	c \$33.00
1"x10", No. 1.....	35.00
1"x12", No. 1.....	37.00
1¼"x3" to 1¼"x12", No. 1.....	45.00
½" and 2" same as above.....	50.00
1" drop siding, No. 1.....	35.00
½" lap siding, No. 1.....	29.00

ENCLOSING AND FENCE BOARDS.

	M ft. BM
	S 1 S
1"x4" to 1"x8", No. 1.....	npc \$33.00
1"x8" to 1"x10", No. 1.....	33.00
1"x10", No. 1.....	35.00
1"x10", No. 2.....	35.00

INTERIOR FINISH, FLOORING, CEILING, ETC.

	M ft. BM
	D 4 S
¾", T. & G. Flooring No. 1.....	yp \$40.00
¾", T. & G. Flooring No. 2.....	35.00
¾"x4", Ceiling No. 1.....	30.00



Are Worth **HOUSE PLANS** Have Studying Originality

This plan for a N. Y. C. client (see 172) is but one of hundreds in our books of plans, giving views, sizes, etc.

100 Small Cot. and Bung.	.50	226 Costg.	\$2000 to \$2500	\$1.00
98 Costg. \$ 800 to \$1200	.50	191 "	\$2500 to \$3000	1.00
136 " \$1200 to \$1600	\$1.00	207 "	\$3000 to \$4000	1.00
186 " \$1600 to \$2000	\$1.00	172 "	\$4000 and up'd	1.00
66 plans of Duplexes, Double Houses, Flats, etc.	-	-	-	1.00

66 plans of Duplexes, Double Houses, Flats, etc. - - - 1.00

KEITHS No 1113 AS BUILT IN W.VA.



A modification in brick of one of my Ladies' Home Journal designs especially studied for correctness of plan. In books 226, 191 and 207 scheduled above are many variations of this plan in frame and brick construction.



One of 100 Bungalow designs we have of every variety of floor plan arrangement. See Book of 100 Designs. Also for larger and better class of Bungalows, our other books contain many attractive designs, both one and one-and-a-half story.



This KEITH Design, against 5 others from leading architects, was awarded first prize by unanimous vote of the Minneapolis Park Board and over 2500 out of 4000 visitors voted for it without knowing the Board's decision.



Shingles below, plaster above. A winner! Compactness of plan and simple detail means money saved. Shown in 226 book of plans.

THE BUILDING OF IT 128 pages, illustrated, a practical guide so you can recognize and remedy faulty work, thus supervising the construction of your own home, **\$1.00**

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The Right Paint AND The Right Painter

When you paint remember that in the choice of your paint lies the question of whether the job is going to be successful or not.

Poor paint will soon show its inferiority on any surface painted.

The choice of a painter is also important.

Be sure to secure the services of a Dutch Boy white-leader (a painter who mixes his own paint from pure white lead with the Dutch Boy Painter trademark and pure linseed oil.)

Then you will have a combination that will insure a first class painting job.

Ask the painter if he is a Dutch Boy white-leader.

National Lead Co.

New York Boston Buffalo Chicago

Cincinnati Cleveland St. Louis

(John T. Lewis & Bros. Company, Philadelphia)

(National Lead & Oil Company, Pittsburgh)

Splinters and Shavings—Continued

	100 ft. run	
4¼" Moulded Casing.....	wp	\$3.00
4¾" Moulded Casing.....		3.50
7¼" Moulded Base.....		5.50
7⅞"x9¼" Moulded Base.....		7.00

MISCELLANEOUS LIST.

	Per M.	
Shingles, No. 1.....	rc	\$3.25
Shingles, No. 2.....		2.45
Lath, 4 ft., No. 1.....		4.50
Lath, 4 ft., No. 2.....		3.50
*yp—Yellow pine. wp—White pine. np—Norway pine. h—Hemlock. rc—Red cedar. bm—board measure. s 1 s—Sized one side. d 4 s—Dressed four sides. C—Clears.		

Present prices prevailing in different sections of the country, as sent us by our correspondents:

Crooksville, Ohio.

Excavating	25c cu. yd.
Brick	\$6.00 to \$14.00 per M.
Lathing and plastering.....	22c per sq. yd.
Carpenters	8 hrs. \$3.00
Bricklayers	8 hrs. \$4.00
Common labor	8 hrs. \$1.75

LUMBER.

Flooring	\$2.70 to \$3.50
Sheathing	\$2.00 per M.
Finish lumber.....	\$50.00 to \$60.00 per M.
Dimension lumber.....	\$2.40 to \$2.60
Slate or asbestos shingles....	\$5.75 per square
Tinwork	\$7.75
Copper valleys and spoutings.....	37c
Tin valleys and spoutings.....	7c

Permanent Fence Posts.

Concrete fence posts are rapidly coming into general use. Only a few years ago the farmer who was enterprising enough to adopt them was thought by his neighbors to be spending his money extravagantly. Today in these same localities posts of this kind are common and are being generally adopted by thousands of the most progressive farmers in all sections of the country. One western farmer makes all his own posts in a mould which he has designed himself and

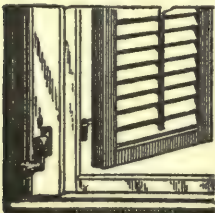
is at present preparing to use them in fencing his entire property, consisting of 160 acres.

Houses in Trees.

In order to protect their homes from earthquakes many of the natives of the territory around Chilpancingo and other towns in the state of Guerrero, in Mexico, live in trees. Some of these tree homes are of large size, and are ingeniously constructed. Reeds and grasses are interwoven with the twigs and branches of the tree, much in the manner that a bird builds its nest. The severest wind storm seldom loosens it from the tree. Where the trees are large and stand closely together houses of two or three rooms are frequently built in their branches. Severe earthquakes visit the Guerrero territory at frequent intervals. The rocking of the earth gives the tree a swaying motion, but does no damage to the houses. In some localities whole villages of these tree homes are to be seen. None of them suffered damage from the recent earthquakes which wrought such ruin to the buildings upon the ground.

What Will Stop Dampness Properly?

A basement room three feet above base to be finished with burlap and the rest of walls and ceiling to be done in oil color. The dampness is shown mostly above base. If the dampness is only visible above base line three feet above it might be covered with asphaltum paper ⅛ inch thick, finished with burlap painted with oil paint of color desired. The asphaltum paper should be pasted with a mixture of Venice turpentine, lead and paste. The Venice turpentine and lead should be mixed first. Make your own paste, and while still hot, mix little by little with the other. Apply this mixture to the asphaltum paper and put on wall, roll it so all air bubbles will disappear. The base board, or upper molding of same, should be taken off, and put back after the work is completed. All joints and corners should be filled with asphaltum. Paste the burlap as usual, but add a little Venice turpentine. The upper edge may be tacked with nails and finished with a chair rail.—American Painter.



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GLIMPSES OF BOOKS

A FEW carefully selected books will be reviewed on this page each month. A good book is a powerful influence in the creation of the home and we trust that Keith's will be an aid to our readers in the selection of a library.—Editor.

The Seventh Noon.

By Frederick Orin Bartlett.

Peter Donaldson is a struggling lawyer in his early thirties. All his life has been a struggle, and he decides that life is not worth the effort to sustain it. A college-mate, a scientist, reveals the discovery of a new poison, that kills without pain at the end of seven days. He steals the bottle and having placed his affairs in order takes the poison. The money he has, figured upon an existence of seven days, makes him far richer than most men of wealth even in New York City. He registers at a famous hotel and resolves to devote the remainder of his life to the service of humanity. At this time he meets a beautiful girl who is in great trouble, owing to the inherited desire of her brother for opium. Mysterious crimes are committed, the brother is suspected, he disappears and Donaldson undertakes to find him. The family is one of wealth and these two are the only survivors with nothing to mar their happiness but this inherited vice. The girl and Donaldson grow more and more to each other, but the man always has in mind the fatal result of his own act, and holds himself in check. The final reclamation of the brother and Donaldson's resistance in the face of fearful odds,

makes a story of unusual interest. The book ends happily for all concerned, after the manner of books, but it would not be well to anticipate by telling just how. Small, Maynard & Company, Boston. Price, \$1.50.

The Day of Souls.

By Charles Tenny Jackson.

This is the story of a man's fight for better things and his success against adverse circumstances, with a woman's help. John Hamilton Arnold is the son of a financier "doing time" in the penitentiary. Circumstances are favorable for pardon. The son, working to this end, becomes involved in political graft from which it seems impossible to withdraw. He is the associate of crafty politicians and the lowest element of society. Yet his attitude is helpful to the individual if not to the body politic. Three women influence his life for good. The first a simple little country girl who engages herself to him knowing nothing of his manner of living. The second is a beautiful woman, preaching a doctrine of her own, who would have married him but for his apparent mistreatment of the first girl. The third woman is from the level to which he has sunk, knowing all the trials and temptations of the underworld. She is the one who really helps him to escape from the meshes of the political net and reach the firmer and more honorable ground on which they both may stand. The book is well written and has its message of strength in adversity. The Bobbs Merrill Co., Indianapolis, Ind. Price, \$1.50.



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ON HOME BUILDING

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The Journal of Modern Construction

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Contents for July

	Page
EDITORIAL	2
AN EXCELLENT EXAMPLE OF CONCRETE ARCHITECTURE	5
POSTER PICTURES IN DECORATION	8
PROBLEMS IN CONCRETE	10
THE PROBLEM OF FIREPLACE FLUES	13
THE SELECTION AND PURCHASE OF A LOT	17
NOTES ON GARDENING	19
DESIGNS FOR THE HOME-BUILDER	22

DEPARTMENTS

DECORATION AND FURNISHING	34
ANSWERS TO QUESTIONS ON INTERIOR DECORATION	40
HOUSEHOLD ECONOMICS	44
TABLE CHAT	48
CEMENT	52
PAINTING AND FINISHING	56
ANSWERS TO QUESTIONS ON CONSTRUCTION	60
HEATING AND PLUMBING	64
SPLINTERS AND SHAVINGS	68
GLIMPSES OF BOOKS	72

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THE FRONT DOOR AND ENTRANCE DETAIL

KEITH'S MAGAZINE

Vol. XXIV

JULY, 1910

No. 1

An Excellent Example of Concrete Architecture

A MODERNIZED REPRESENTATION OF THE SPANISH STYLE WITH ADAPTATIONS FROM THE ITALIAN

By Charles Alma Byers

(*Photographs by Seward Abbott*)



THE HOUSE AND GROUNDS FROM THE SOUTH

THE accompanying photographs illustrate the home of Mrs. Christian Herter at Santa Barbara, California. It was designed by Architects Delano & Aldrich of New York City, and its construction was superintended by R. D. Farquhar of Los Angeles, California. Exclusive of furnishings and other accessories, the house represents an expenditure of about \$18,000, and is probably one of the very best examples of concrete architecture on the Pacific Coast.

The house is a representation, in the main, of the Spanish style of architecture, with conspicuous borrowings from the Italian, somewhat modernized. Its general external appearance is comparatively plain, artistic, and unusually attractive. It is but one story in height, although a tower-room effect is given to three of the corners, those facing the front and a side street; and the roofs are exceptionally flat, with broadly projecting eaves. It is located on a level plot of grounds of extensive dimensions, and



THE RECEPTION ROOM, SHOWING ART TREASURES

the broad sweep of well-kept lawn, sparsely dotted by only dwarfed palms, adds to the house's low and rambling and simple appearance. One view of it reveals it framed by the lace-like branches of two huge pepper trees, with towering mountain peaks beyond in the distance—a view that produces a picture of exceptional beauty.

The house has a frontage of 153 feet and a depth of 117 feet, and is built around a court, or **patio**, 84x67 feet, the rear end of which is enclosed only by a corridor-like driveway. A broad cement walk, terminating in still broader steps, guarded on either side by lion figures in crouching position, lead to the front door, which is of Spanish design, with a Moorish lighting fixture overhanging it. The windows are of unique pattern, designed to harmonize with the front door. Permanent window boxes are constructed beneath the windows of the tower-like

corners, the flowers of which add most effectively to the house's color scheme of cream-colored concrete walls and red tile roofs.

The tower rooms are fitted up with comfortable seats, and, since the window sashes are removable, they are converted for the greater part of the year into veritable outdoor lounging rooms. The tower room located in one of the rear corners is frequently used as an outdoor sleeping room, it being provided with a single bed or cot suspended from the ceiling on chains.

One of the most enjoyable features of the house is the court, or **patio**. The floor plan is so arranged that a door from every room, except the tower-rooms, opens into it; or, rather, into the broad corridor which surrounds it. The corridor, which has a cement floor, serves as a series of secluded verandas, provided with chairs and tables, and decorated

with hanging baskets, suspended in the numerous arches. The corridor space is roofed, but the court proper is without a covering, which admits fresh air and unhindered sunshine. There is a spraying fountain in the center, and around the fountain blooms a profusion of flowers, bordering upon graveled walks which wind hither and thither.

The house contains reception-room, drawing-room, library, breakfast-room, dining-room, and five bed-chambers, each with an individual dressing room and bath, besides the servants' quarters. The reception-room is 25x40 feet, the drawing-room 25x30 feet, the library 25x25 feet, and the dining-room 25x25 feet.

Each of the principal rooms is provided with a large fireplace, with a mantel of original artistic design, while the

lighting fixtures throughout are of special manufacture, patterned to harmonize with the finish of the various rooms. The house is richly, in fact, almost too elaborately, furnished throughout. The rugs, tapestries, vases, and much of the bric-a-brac are foreign importations of the most rare varieties, and including these and the other accessories the approximate cost of the home was \$60,000. The importations represent nearly every country notable for art in the world.

The walls of the house are reinforced, and the concrete used is of the very best quality. The plan and style are unusually good, and the house designed and built for a less elaborate collection of furnishings should make a desirable home for any locality—and it would not necessarily need be unreasonably expensive.



THE PATIO WITH CLOISTER EFFECT



POSTER PICTURES

DECORATION embraces so many periods, methods and phases that an endless amount of detail is presented for consideration in modern work. The only thing that saves us from the utmost bewilderment in making a selection is that only portions of the decorative motifs are considered proper and in style at any one time. With all the beauty of historic times in decorative art to draw from, there is nothing fills quite the purpose of the poster picture in the home of today.



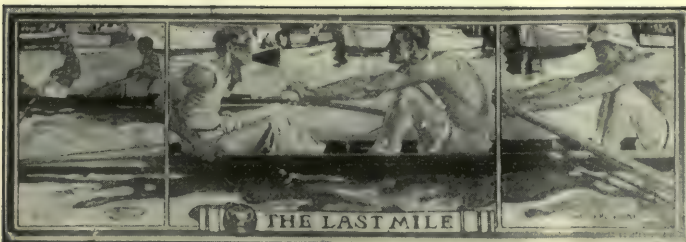


IN DECORATION

Certain phases of modern life are portrayed in humorous style with telling effect and the color harmony is often of the best. Such rooms as may properly admit the poster will gain in individuality and character. The series illustrated is admirably adapted to the den or sitting-room of the college man or co-ed. Their value for this purpose could hardly be overestimated, for their presence gives just that suggestion of college life desirable in a student's room.

The poster will be greatly enhanced by a neat black narrow frame with a plain wall surface as background.

Copyright by Close, Graham & Scully.



Problems in Concrete

(Continued from the June Number)

Illustrations by Courtesy of Acme Woven Wood Lath Company



VIEW OF APARTMENT HOUSE SHOWING WOOD LATH USED EXTERNALLY

ARTICLE XVIII.

Wood Used Externally for Lath and Reinforcement.

THE modern employment of cement and concrete as a building material has led to many new devices and methods for its application. Old ideas have been studied with a view of getting all the good in them suitable for conditions of this era. Of these, some have received scant consideration by modern designers, and conclusions hastily formed may have led to lines of reasoning away from the best practice. Simple ways of doing things are often better ways, but in our desire for knowledge are overlooked, leading to

the adoption of more intricate measures on the supposition that they are scientific.

So thoroughly familiar have we become with the word "reinforced" that metal in some form is immediately suggested. Other means of reinforcement are given scarcely any consideration so thoroughly has the idea of metal for the purpose become associated in our minds. But is this altogether right? Are there no situations where wood will answer every purpose as a strengthening frame about which the concrete is poured. It is not purposed to advocate a single backward step in building construction, yet some buildings are of such a character that the necessity of great strength is

not apparent. In such, light concrete walls reinforced with wood timbers, would be a distinct advantage over the old frame construction. Buildings of this order have recently been erected locally affording an interesting opportunity for observation of these methods. Sufficient time has not yet elapsed to allow an intelligent opinion to be formed, yet other localities report success of similar methods.

In like manner the public faith has been pinned to metal lath for external stucco surfaces. Much of this has proven unsatisfactory, because portions not properly embedded in cement have been attacked by rust, eventually leading to disintegration. Coatings of various kinds have given a degree of satisfaction, yet the tendency of the coating to scale off has been a disadvantage. The galvanized lath meets many of the objections advanced but cut ends of the various sections cannot be galvanized. The extra price is also a consideration in competition with other metal lath.

The use of wood lath externally has

fallen into disuse for various reasons not altogether due to its own lack of merit. Some years ago a fad swept over the country in which lime plaster and broken bottles on wood lath figured largely in gable ends. This, together with much activity upon the part of the "gig-saw," produced effects both fearful and wonderful. To make matters worse lime plaster in the hands of "get rich quick" builders, soon proved itself unfit for the purpose and unsightly exposed lath in abnormally ugly gables, put the finishing touches to an architectural nightmare. To what extent the wood lath was to blame for the constructive failure is hard to determine now. It is a known fact that both wood lath and lime plaster have been used externally by builders in the olden time, and proven satisfactory. This is true of so many things made in the past that one is forced to the belief that both materials and workmanship were of the best with no thought other than to produce a thoroughly good work. A fitting expression of this thought is contained in the lines,



AN INTERIOR, SHOWING LATH IN POSITION



THE COMPLETED BUILDING AFTER APPLICATION OF STUCCO

*"In the elder days of art,
Builders wrought with greatest care,
Each minute and unseen part,
For the gods see everywhere."*

One reason why wood lath has lost caste is because of its quality. In the effort to get all there is out of the log, the manufacturer, copying the methods of other lines of industry preserves even the bark, by leaving part of it upon the lath. At the best ordinary wood lath is but a by-product of the sawmills. It is made from slabs and other parts which have no value for anything else. These portions being the outermost part of the tree are of most recent growth and therefore the most unsatisfactory for constructive purposes. This is why ordinary laths are weak, flimsy with grain running in every direction and likely to warp, split and buckle, causing lath cracks in plaster.

Under these conditions it is not surprising that wood lath should have fallen into disuse for external purposes.

With a view of obviating the difficulties attendant to the use of lath in its old form, designers have evolved a woven wood lath. This is made of the good, sound, mature heart of the tree and is strong and tough. The material is $\frac{1}{8}$ inch in thickness, is smooth, free from knots and the grain runs lengthwise of the wood. Wetting makes it possible to bend the lath to fit curved surfaces, even columns being treated in this

manner. The lath is woven in sections making its installation very rapid and there is no necessity of "breaking over" as is done with ordinary lath. Each section goes directly above the other until the entire surface is covered. The material being thin, less water is absorbed, consequently there is less expansion and contraction.

The vertical and horizontal direction of the weave impart a greater strength to the lath than is possible with ordinary lath, nailed as it is, to the studding, 16 inches on centers and no additional vertical bracing. For exterior work furring strips are spaced 12 inches on centers. Adjoining sections are not butted, the side strips are removed and the lath allowed to lap. An interior is shown with the lath in position ready for the plaster, giving a very good idea of the general appearance. A detail at a larger scale in the corner of the illustration shows the strength of the plaster clinches on the back of the lath.

An exterior view of a large apartment house in course of construction, shows the wall covered with building paper, the furring strips and a partial installation of the woven lath.

An interesting example of the finished work is shown in the view of the complete building. This work has now been in place over a year and it would seem that wooden lath designed along these lines should be given consideration by prospective builders for external use.



Courtesy of Rathbone Fireplace M'f'g. Co.

The Problem of Fireplace Flues

HOW TO CONSTRUCT THE ASH FLUE
FROM A SECOND STORY MANTEL

IT often happens that several flues can be conveniently carried up in one stack and in this case provision was necessary for a fireplace on the first floor, a fireplace directly over it on the second floor, with ash flues from each and the house flue from the furnace or hot water boiler. If the house flue had not been located in this stack of flues, the ash flue from second story would have taken its position as indicated in the drawing. The flue from the first story fireplace is obliged to go to the side in order to pass the second story fireplace. There is no difficulty about the flue for the latter as it can go straight up above the fireplace, but how are the ashes of the second story to reach the basement, with the space at either

side of the fireplace blocked by flues. At first thought it would seem to be impossible without increasing the size of the stack and giving it an unsightly projection into some room. This is a condition that arose after a certain house was started. Its solution was rendered a little easier because the lower fireplace had a facing of brick and in addition had been drawn four inches deeper than was actually required, gaining in all eight inches from front to back of chimney stack.

The backing for the first story fireplace was built up of brick placed on edge, set at a depth of sixteen inches back from the face of the face brick. This allowed a space of about six inches between the backing and the back wall of the chimney, marked "ash passage" on the "plan

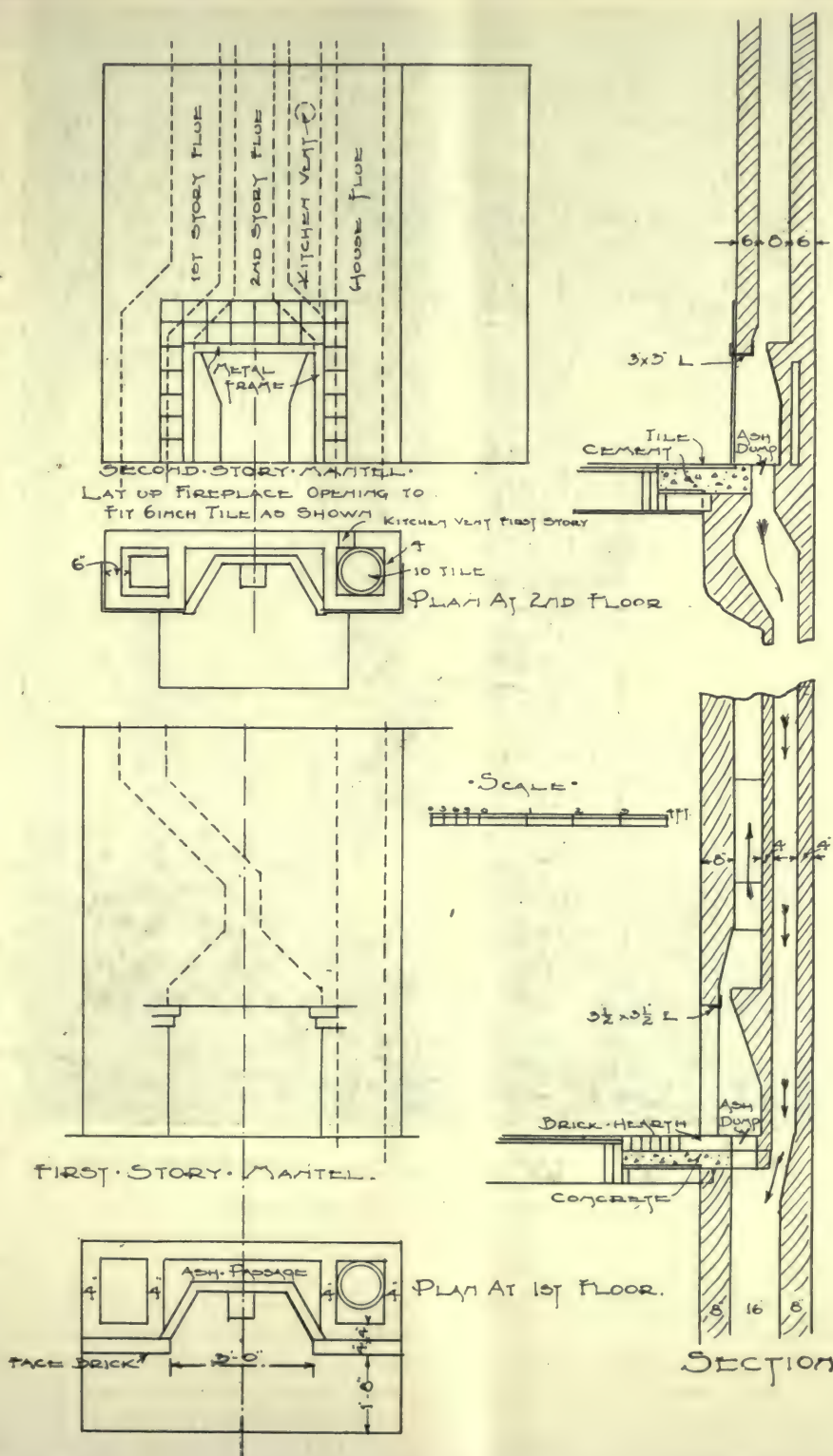
at first floor," of the diagram. This space was available as a continuous passage from the second floor fireplace, as shown by the "section," allowing the ashes to be simply dumped into it above to find their way to the ash pit below in the basement. The ashes for the first story fireplace required no passage other than the opening of the ash dump, because the ash pit is directly below. There should always be a little space between the fireplace backing and the rear wall of the chimney. The whole solution of this problem is to increase this space sufficiently to allow a passage for ashes from the story above. This applies to the first story of chimney only, no increase above this, because the ashes begin their descent in the fireplace and at the level of the second story. The "plan at first floor" shows the ten-inch tile lining for the house flue with a space in front of it, giving extra depth to the whole chimney, thus helping to provide for the ash passage. The "plan at second floor", shows this space eliminated, reducing the chimney to the smallest possible size. The elevations of the first and second story fireplace are drawn without mantels in position, the better to indicate the position and direction of the various flues shown by the dotted lines. It happened that in this particular house there was a kitchen on each floor, directly behind this chimney stack. It was not necessary to provide a smoke flue for each kitchen, because gas is used as fuel, but proper ventilation to carry off the odors of cooking was an important consideration. This was provided for very easily and at a trifling expense. The round tile "house flue" does not fit tightly into the rectangular brick flue so there is a circulation of air all about it, kept constantly warm by the smoke passing upward. The hood above the gas stove of the first story kitchen was connected with this space by a three-inch metal pipe, effectually disposing of the odors. The dotted lines on the elevation of the "second story mantel" indicate a space between the flue for this fireplace and the house flue. This space was used as the vent for the second story

kitchen, the circle dotted on the drawing indicating where the pipe entered from the hood over the gas stove.

The backing for the fireplace is of great importance considered as to its plan and general construction.

It will be noted that the drawing shows the sides splayed or slanted toward the back as to plan, and that the back itself projects forward, till at the top, only a narrow slit about four inches wide is left, opening into the throat of the flue. In this way the smoke is made to eddy upward and forward into the flue. If the sides of the fireplace were built straight back, making two square corners, the smoke would lodge in them and make its escape more slowly, or possibly puff out into the room to the great annoyance of the occupants and damage to the contents. The slant of the sides and the forward projection of the back also directs the heat out into the room. Another reason for projecting the back forward, is to produce the little flat shelf above it, at the bottom of the flue. The cold air descending the flue becomes a draught which arriving at the bottom, is obstructed by the little flat shelf, causing it to rebound. If the shelf was not provided and the back made straight, this draught would strike directly upon the fire, causing it to smoke badly. If the room was not sufficiently warm to provide quite a volume of warm air as an up draught, it might be very difficult to light a fire at all, without the use of live coals. For these reasons the home builder should watch the construction of the fireplace very carefully. Some builders give the shelf a decided slant thus directing the down draft upon the fire instead of reflecting it upward to be reversed by the rising current of warm air. If the flue is to eventually go to the side, it should first go up straight as indicated for the first story mantel.

A "smoky" fireplace is a constant source of annoyance and the fact that it may have been made unusually decorative, is not an extenuating circumstance, rather the reverse. Money well spent is soon forgotten, but money represented





Courtesy of Colonial Fireplace Co.

A FIREPLACE OF BRICK AND TERRA COTTA

by a failure, however ornate, is an ever-present irritation.

Construction as described above is of the old standard fireplace with no modern appliances in connection.

The market now affords fireplace devices that will heat more than one room

by an ingenious arrangement of pipes conducting either hot air or hot water. This is a very useful invention and is of special service in spring and fall when it is too mild to have a fire in the heating plant and too cold to be entirely without heat.

The Selection and Purchase of a Lot

SOME HINTS FOR CONSIDERATION
WHEN BUYING A RESIDENCE LOT

By H. Edward Walker

GOOD judgment in the selection of a lot is one of the most potent factors in successful real estate transactions. If the lot is to contain the house that is the realization of years of preparation for a home, it is even more important, than if it is a matter of speculation. In either case it is well to have in mind the possibilities of selling. Try to consider all the different items that make a given lot desirable or undesirable, not only from the individual point of view but from that of the possible purchaser.

The man buying property in a large city in which he is not well informed, is quite likely to make a poor selection. Often the most beautiful building sites, with no objectional features apparent to the eye, are located in a part of the town that has no possible future as a fine residence district. The adjoining territory may contain workshops and factories surrounded by houses built in a "boom" period for speculation, very much out of repair, rendering adjacent new additions undesirable. Commercial prosperity may mean concentration of productive facilities requiring additional space for employes' homes of an ordinary type, thus making the new territory merely a continuation of the old order of things. Popular prejudice may be such that to live in a certain direction may fix one's social position to some extent or render one "impossible" if living within certain proscribed territory. Unknown to the outsider, a certain car line may be the dividing line between the just and the unjust. One must acquiesce in the idiosyncrasies of the public mind, however erratic, if his best financial, social and other self centered interests are to be considered. The welfare of the whole family must be kept in mind. Environment has an influence upon the entire future life of the individual. Attendance at a certain high school has often brought about a wealthy marriage because several of the students were from families of prominence.

In a few cities the liquor traffic is confined to certain limits, making residence property more desirable without than within the district. The presence of railroad tracks are objectionable even though there are no manufacturing plants on that portion of the line. The future may see them in great numbers. A street that ends abruptly is undesirable unless it opens into some prominent thoroughfare. Avoid a location that will require a great expense for grading, installation of public utilities, etc. Streets cut through a hill will increase taxes, require retaining walls and be a constant drain upon the income of the property owner. Low places require filling and are apt to be unhealthy. It is not advisable to buy a lot in a locality where most of the houses are old, even if they are well kept up. The buying public has lost interest in that district and will be found locating in the newer additions. The chance of selling is practically nil and the residents have solved the neighborhood problems or decided to let them go unsolved. The families will probably be older than your own and therefore have a different viewpoint toward the world in general. It will be better to go where things are new, but not too new, and grow up with the neighborhood. Young married people will flock to new districts and the whole atmosphere of the community will be in keeping with their age and position in life. Those things that are of interest to all, will be managed in accordance with a progressive spirit. It is not always best to be a pioneer in a new location even though the land can be bought for a song. It may mean a long wait before the rush comes and when it does it is usually the man who jumps in and gets possession of some of the best corners and jumps out again, who makes the money. Sometimes a town grows away from instead of toward a new location leaving the "pioneer" on his "garden patch." It is better to buy in a location where the gen-

eral tendency and future development is clearly defined, where the houses are of a good class and the people ambitious. The lot will cost more and taxes may or may not be higher than elsewhere, but it will be worth more than a lot in a cheap location. A man of ordinary means cannot afford to buy a cheap lot unless it is possible to dispose of it at a profit in the very near future. How often we see a "poor" man trying to sell his little home in a cheap location where the only demand is from people with a very limited amount of cash, requiring very easy terms for the balance. It costs just as much to build in a poor location for a given amount of labor and materials, as it does in a good location and the returns in rent or a quick sale are so much less. Suppose a lot poorly located costs \$250 and another in a good active location costs \$600. The terms on the first are \$25 down and \$10 per month at 6% interest. It will be about two years before it is paid for and in the interim the second lot in the better active location may reasonably be expected to have advanced \$100 per year. Even though it takes longer to pay for, it is something worth while in the end, has a ready sale and is a good borrowing risk when building. As a speculation it would be profitable. The first lot would probably have advanced some but would be harder to dispose of and its purchaser would probably require easier payments. The money paid for the first lot would certainly have controlled the second lot till a profit was obtained that was worth while. It is assumed that this illustration applies to the present time and is a very moderate statement compared with what really does happen in a progressive city. Building restrictions are a factor in producing a good neighborhood and good real estate values. If each house must cost at least a certain amount, be situated a certain distance back from the street and be an individual house, not a flat building, it means a great deal to the whole locality. If barns, stores, sheds and other buildings detrimental to residence property are excluded, values will be correspondingly higher. These matters are all important and should be carefully looked into before buying a lot for a home site or for speculation. How disappointed a man once

was, who bought his lot and then looking about him said "I never saw the little store opposite." It sometimes happens that objectionable buildings begin to get a foothold in a good locality. It is common practice to pay enough upon the vacant lot adjoining one's property, to get control of it, put building restrictions upon it, and sell it again with little or no profit. It can be done without much capital and saves the situation. Again some "financier" will buy a piece of property in a good location and set a few scrapers to work digging the basement of a large flat building. The neighbors then hold an indignation meeting and in the end subscribe \$100 each to buy the property at a very substantial advance over the purchase price. A desirable lot is first of all in a good location, then its size and frontage may be considered with the necessary improvements necessary within its borders and in relation to its neighbors, such as grade, walks, sewer, gas, etc.

Building restrictions if general in the vicinity will be an advantage and the price should be such that a natural local growth would bring a profit. The buyer must use his best judgment and swing what he can according to his resources. If a growing city is located close to a lake, the shore should be good property to hold and the whole district will eventually bring good prices. Transportation facilities must be considered. The distance from the business portion of the town is not a factor if there is good car service, but the man who gets the habit finds even four blocks considerable, to walk from the car in winter. As to inside and corner lots, the latter is worth more, has a better view and more air, but the taxes are higher and walks must be cared for on two streets.

For a home, where the outside work falls largely on the tired business man, the inside lot has many points in its favor even though it is not as good an investment. A lot that should not be overlooked is the unusual lot or fractional lot, that most people think is of no value because of its restricted size or inaccessibility or both.

This is where a little ingenuity will produce good results and the low price usually asked, make it a profitable investment.

Notes on Gardening



THE GARDEN OF SHAKESPEARE'S COURTSHIP

Sweet Corn.

Be Sure to Select the Right Kind.

SO much fodder corn has been sold each season that many people are not familiar with the real sweet corn. The most famous is Country Gentleman; and it is holding its own today in the face of the improvement in other kinds.

Another fine corn, though not so good-looking, is Golden Bantam. This is an early corn and can be planted for a crop to come before Country Gentleman. For a late crop most specialists agree that there are few sorts to compare with Stowell's Evergreen. This is recommended by the department of agriculture.

Make successive plantings of corn every two weeks until July, unless you plant early, medium and late varieties, when all may go in early. Even then, however, a little successive planting will be found profitable.

Make the rows for corn at least three feet apart, and when the plants come up thin them down so that there will be a single stalk every foot or so. Or plant in hills, putting half a dozen seeds in each hill and keeping the hills three feet apart each way.

Corn should go in about two inches deep, and needs the very richest ground. It also needs lots of cultivation, especially while the plants are young for they are easily starved or smothered then by weeds up-springing about them.

Corn is a hungry crop, growing greatly and needing room and nourishment.

In a very favorable season, it may pay to plant an "early" variety, that is, a swiftly growing variety, about the middle of July, to insure a crop late in the season when the main crop will have been used up.

It is very tender and will be killed by the first frost, so there is no use in planting such a crop unless the growing conditions are highly favorable.

Sweet corn matures in from 55 to 90 days, according to the variety. The ears must be picked as soon as they are fit, to get the perfection of flavor. For household use pick the ears just before they go into the pot, handle them delicately and you will be surprised at the difference between corn absolutely fresh from the stalk and corn which is even a few hours old.

A Showy Flower.

Phlox Gaining in Popular Favor.

Phlox is rapidly gaining a leading place in popularity, among experienced gardeners, for filling in spaces where a snowy flower is required. The perennial varieties especially have been made attractive through the introduction of many new varieties recently.

The annual varieties, which grow from seed in a season, are quite as gorgeous and exceptionally suitable for the amateur who wishes a striking effect for his garden. Of the annual varieties, there are so many distinct sorts, catalogued under Phlox Drummondii, that the gardener can find any shade desired except yellow. The varieties differ in height, size and shape of blossom. They are of easy culture. Seed may be planted in the spring as soon as the weather settles, and generally they should be given a sunny position in the northern latitudes, while protection against the sun and dry winds should be given in the southern and western climate, where there is liable to be a long season of dry, hot weather. The plants will grow in almost any soil, though, of course, they do best in rich soil. They grow rapidly and it is not worth while to plant the seed indoors. Ordinarily they cease blooming in midsummer, especially if the season is dry and warm. But if they have partial shade and are given moisture and some plant food they may continue blooming until late. The plants are most effective when in a large mass, those of each color by themselves, and in arranging the harmony of color, the height of the plants should be carefully considered.

Keeping the Weeds Down.

As a matter of fact, young weeds are almost as tender as the most delicate young seedling or garden flowers and vegetables. It is only after they get a

good hold on the earth with their roots that they become pests difficult to eradicate.

There are scores of ways to fight weeds—dozens of patented appliances, chemicals, etc. Of them all, the one way that is so much the best that no other method can be compared with it for even a moment, is to keep the earth cultivated constantly all around the vegetable and flower growth.

A weed one day old will die at a mere touch from the hoe or rake. A weed three days old will need a pretty severe jerk. A weed a week old is going to make you get down on your knees and dig deep.

Constant cultivation of the top soil may well be said to be the great modern improvement in all kinds of farming—and gardening is simply flower-farming. Every garden should have all the ground not actually inhabited by a flower cultivated every day.

All that is necessary is to draw the rake or one corner of a small hoe along the furrows between the vegetables, or around and between the flowers. You don't need to chop or work at one place again and again. The labor is so slight that the most feeble person can do it. The implement will sink in deeply enough from its own weight, and all that the gardener needs to do is to pull it along.

Remember that this cultivation not only destroys the weeds but does practically everything else that is needed in the garden except spraying and pruning.

The whole secret is to do it every day.

Prolonging Productiveness.

The vegetable garden can be made doubly productive by a little forethought and ingenuity. By a succession of plantings, or even replanting where the very early crop has been harvested, gratifying results may be obtained.

Bush beans may be planted continuously, as ripened crops are taken out from April to the end of July. They will be ready for use in about fifty days after planting. Plant beets from early spring to August. Crops will be ready in about fifty days. Plant carrots from early spring till June. They need three months to ripen; thus your last seeding will give you carrots about the end of Sep-

tember. Lettuce may be seeded down continuously from spring to September. Some very small and tender varieties will be ready for the table inside of thirty days. Others will ripen all the way between that time and three months. In the south lettuce seeding is just reversed, it being sown from September to March.

Peas can be sown till June. They require from forty to eighty days. To get an abundant crop during the season it is wise to plant many rows early in the year. Radishes may be sown till September, as they will mature in an average of thirty-five days.

When these vegetables begin to come up, they should be thinned as follows: Bush beans, if of very full and bushy habit, one foot between plants. Beets and carrots, thin down so as to leave not more than three plants to the foot. Lettuce must be thinned down according to the variety, to make the plants stand from 4 to 8 inches apart, and in the case of specially big-heading kinds, the quality will be improved if they are as far as a foot apart, providing the garden has room. In the case of non-heading kinds, or in the case of a family that wants to pick young lettuce before it has reached full size (by which a most delicious and tender, though not very plentiful supply is secured), the plants need not be thinned down at all, but can be left to grow close together, as they will be used before they begin to rob each other of nourishment.

Peas are usually permitted to grow pretty close together. Three inches between plants is generally ample. To get very fine radishes, thin the plants to make them stand two inches apart.

Garden Pests.

How to Fight Them Effectively.

Roses are the great sufferers from all sorts of pests. Scale will attack stems and twigs. A very weak kerosene emulsion applied now may save them from further attack during the summer. Rose lice, which are tiny bright green insects, will often appear in amazing multitudes almost over night. Tackle them with kerosene emulsion or whale oil soap. Be sure to spray or otherwise apply it so that it will get on the under side of the

leaves. The same treatment must be adopted for mites, thrips and red spiders.

Rose bugs and beetles can be killed by poisoning the flowers and leaves with Bordeaux mixture and arsenate of lead. Making a thick lather of common kitchen soap and dropping the lather with the hand on all the affected plants till they were one mass of soap suds, has been very successful. If the leaves of roses mildew or rust, apply Bordeaux mixture.

Hollyhocks will probably need some Bordeaux mixture, too. They suffer much from rust or red specks that come on the under side of the leaves and sicken the plant in no time. They are also attacked by a green bug which must be killed with kerosene emulsion.

Peonies often turn back around the bud. Some dry Bordeaux may be dug in around the crown of the plant. For red ants which eat the buds, use kerosene emulsion. If the flowers are almost ready to open, a half pound of anti-destroying powder can be bought for 35 cents from seedsmen that will be pretty sure not to affect the flower. A few pinches only are needed from time to time.

Chrysanthemums are often over-run with tiny coal-black bugs till the stems are absolutely invisible. The best remedy for them is tobacco water. Or put on gardening gloves and simply squeeze each affected twig and stem gently, covering every inch till all the bugs are crushed. Whale oil soap will answer fairly well.

Almost the same kind of bug gets on sweet peas at times. The same treatment will answer. Delphinium often suffers from a root worm. It must be lifted then to kill the worm and reset in clean earth in which a little tobacco powder or soot is mixed.

Golden glow and heliopsis suffer from red insects (aphides), that will yield to tobacco water. Phlox and verbena will need Bordeaux mixture if the leaves turn brown and shrivel.

Very often what seems the longest way round is the shortest way home in gardening. Picking off the insects by hand is not so tedious a job sometimes as it appears to be, and it is extremely certain—if you make sure to have a receptacle with you full of kerosene or some other sure killer to receive them.

Designs for the Home-Builder

LIKE an army of bees the home builders are busy constructing the domiciles that are to shelter them the coming season. Everywhere is seen the better order of things, homes owned by the inmates.

In spite of high prices of necessities, it is possible to own a home. Not only because it has been possible to save something a little at a time, but conditions are made easy in many ways for the man who really means business. Real estate and loan companies are getting very close to the homebuilder in the matter of first and second mortgages and monthly payments. It would seem that anyone with a steady job could eventually own a home, under the arrangements they offer. It would be interesting to take one of these designs to a real estate company and ask what might be done about a loan, provided one purchased a lot. Unless methods are vastly different, in the reader's location, from what they are in the home of Keith's he will find a surprise awaiting him.

Design "B 158"

The exterior walls, porch piers and rails to be of reinforced monolithic concrete of a cream finish. The interior walls to be of hollow concrete blocks. The outside walls to be treated with waterproofing material and furred for metal lath and plaster. All other plastering to be done on blocks and ceilings direct.

The roof is to be 2½ in. cinder concrete with reddish terra cotta shingles. Roof and porch brackets to be of simple design and easy to cast.

The floors are to be of 5 in. to 7½ in. reinforced concrete. The porch floors to have stained cement finish and interior floors to be laid on ¾ in. by 2 in. strips imbedded in concrete. Building paper to be used between floors.

Trim:—The trim to be oak in main rooms and yellow pine in others and all to be stained in oil.

Story Heights:—Basement 7 ft.; first story, 9 ft.; second story, 8 ft., and attic room 7 ft.

ESTIMATE.

Excavating \$78.00
Concrete and cement work..... 5,336.00

Carpentry and mill work.....	485.00
Painting and glazing.....	186.00
Plumbing	520.00
Heating, hot water	470.00
Plastering	375.00
Roofing	160.00
Sheet metal work.....	50.00
Hardware	95.00
Lighting	190.00

Total \$7,945.00
Cubic contents, 39,310 cubic feet.

Design "B 159"

This is quite a pretentious design in brick, stone and shingles. Its proportions are good and well-balanced, producing a design of more than usual interest. The entrance porch before the reception hall and the terrace about the library are pleasing features. On the first floor are reception hall, living room, and library, finished in fumed quarter sawed white oak. The dining room is in white maple, finished in Austrian grey. The breakfast room and rear hall is in Oregon pine, antique finish. The five bedrooms and two bathrooms are finished in white enamel. In the attic the servants' rooms and billiard room are in Oregon pine, natural finish.

Living room, hall and dining room have beamed ceilings. There are three fireplaces on the first floor and two on the second.

The laundry, kitchen and pantry are all conveniently arranged on the first floor. The sunny exposures of the house are protected by pergolas. There is an outside stair to the basement, which contains hot water heating plant, fuel rooms, fruit and vegetable cellar and storage space. The main dimensions of the house as indicated upon the floor plan are 45 ft. by 52 ft. 6 in. The owner states that the house cost about \$15,000.

Design "B 160"

A simple design on square outlines in cement is sometimes very effective. A straightforward treatment following this idea has been employed in this house. The entrance porch is purposely made unimportant as to size, though of good design. A sun porch is located in this case, at the rear, toward the west. The living room is of good proportion, containing

a fireplace and built-in book cases. A wide opening connects it with the hall and to the rear is a den, opening to the sun porch. Sliding doors separate the dining room from the hall and it contains a built-in sideboard and china closet. The kitchen is reached through the serving pantry and both are very complete in their appointments. The kitchen also has access to entry, rear stair and front hall. On the second floor are four fine chambers, a sleeping porch and a bath room. The attic is large and could be divided into rooms.

The finish is of birch, stained mahogany, on the first floor, except kitchen and pantry, which are natural. On the second floor the birch finish is continued from stairway throughout the hall. The chambers and bath are in white enamel. All floors are of birch, except kitchen and pantry, which are of maple. Hot water heat is provided, and the basement is complete with fuel bins, laundry, cellar and storage space.

The house is 32 ft. by 32 ft., with basement 7 ft. 6 in. Height, first story 9 ft., and second story 8 ft. 6 in. The cost is reported to have been \$4,500.

Design "B 161"

The Southern style with broad "gallery" across the front makes an admirable home where the grounds are ample. The white columns and cornices in classic detail, give an air of refinement and culture. The striking feature of the plan is the large living room, 15 ft. wide by 30 ft. long. The symmetrical location of bay window, fireplace, columned opening and side windows cannot fail to make a room of stately beauty. The reception hall running across the house with stair going up in easy flights, is an old time feature of interest. The dining room is very pleasant with its bay, sideboard and sliding doors to hall and front porch. The pantry, kitchen, rear stair and entry are of special interest in their arrangement. On the second floor are five chambers, each with a closet, a bath room, a large balcony in front and a smaller one to the rear. The attic affords opportunity for additional rooms and storage. To properly carry out the true colonial feeling the finish of this house should be painted white and it should be furnished largely in mahogany. Birch or maple floors would be satisfactory.

The basement is completely fitted up with laundry, fuel room, cellar and hot-water heating plant. The house is 45 ft. wide by 31 ft. deep.

The basement is 7 ft. 6 in. high, and the first

and second stories are 9 ft. 6 in. and 9 ft., respectively. The architect states that the house cost \$6,000.

Design "B 162"

There is a characteristic style to the new houses built in California. Wide projecting eaves, with ornamental brackets. The house before us, a modified type of bungalow, exemplifies this style to quite a marked degree. A unique feature is the apron or flat hood projecting over entrance and double bays. The outside walls are shingled to the ground. There is a 10-inch belt course running clear around at the top of the first story windows, painted white with the balance of the trim, the shingles being stained a very dark green.

The interior is exceedingly comfortable and on the first floor, in addition to the customary rooms, we have a music room, bedroom and bath. On the second floor are provided three good sized chambers in addition to servant's room and bath. There is also servant's back stair.

The interior finish is of fir throughout, and lends itself better than any other to the soft wood stains. Where care is used in the selection of grain, it makes an exceedingly satisfactory interior wood.

As no attic is provided, there is a full basement for a laundry, vegetable cellar and accommodation for a hot air heater.

Width, 41 ft.; depth, 41 ft.; height of first story, 10 ft.; second story, 8 ft. 3 in.; basement in clear, 7 ft. Estimated cost, \$5,000.

Design "B 163"

This little cottage is an unusually good example of concrete block construction. The blocks are very light in color and are laid up with brown joints. The shingles of the gables and trim are stained in brown. The basement wall below grade is of poured concrete, and the floor is of cement. For a small house the arrangement is ideal, there being a hall, living room, dining room and a kitchen on the first floor and three good chambers and a bath room on the second. The finish is in Georgia pine and cypress, stained a dark oak for the first story and in the natural finish above. There is a furnace and the plumbing fixtures are supplied with both hot and cold water. The size on the ground is 26 ft. wide and 34 ft. deep.

Owner's estimate cost:

Material	\$1,000.00
Labor for masonry	145.00
Labor for carpenter	200.00

(Descriptions Continued on Page 25)

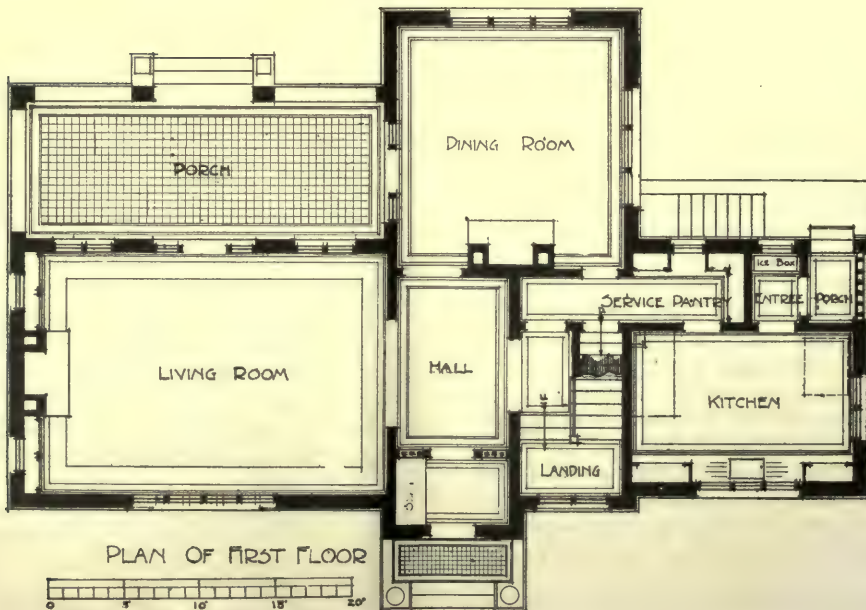


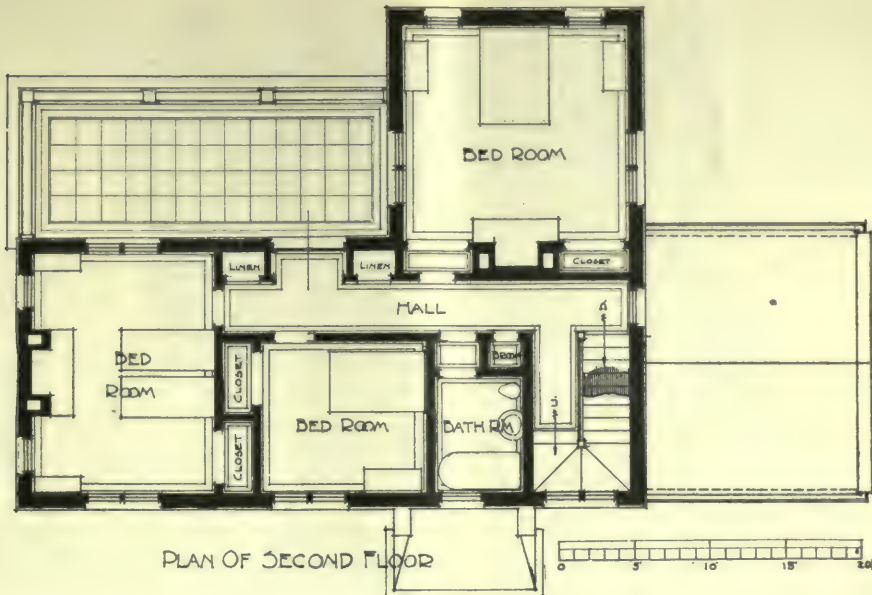
Courtesy of Universal Portland Cement Co.

WM. G. WUEHRMANN, Designer

An All-Concrete Home of Pleasing Design

DESIGN "B 158"





Cottage Designs for the Home-BUILDER—Continued

Plumbing	175.00
Furnace and tin work.....	200.00
Electric wiring and fixtures.....	55.00
Draying, excavating, miscellaneous labor	60.00
Total	\$1,835.00

Design "B 164"

This design has been especially prepared as a residence for a physician, and therefore includes a little reception room and office, with special outside entrance. These are so located as to be entirely separate from the main part of the house and yet convenient to access.

In the basement is a laundry and hot air heating and ventilating system, and coal bins. The basement has a cement floor and outside entrance.

The finish of the hall, sitting room and dining room is of white oak, with hardwood floors in these rooms and also in the kitchen, bathroom and second story hall. The balance of the house is in pine finish or cypress.

The large porch will be found very desirable. Siding is used on the exterior up to the belt course, above which are shingles.

Width, 33 ft. 6 in.; depth, 30 ft. 6 in.; height of basement, 8 ft.; first story, 9 ft. 5 in.; second story, 8 ft. 3 in. Estimated cost \$3,100.

Design "B 165"

Footings, piers, foundation and exterior walls to be of monolithic concrete. The exterior surface to have brush and acid treatment. The floors will be of reinforced concrete construction, floor surfaces to be finished smooth, with wooden strips inlaid for fastening floor coverings. All stairs to be of reinforced concrete, with wooden treads and risers, except cellar stairs, which are cement finish. Interior partitions to be of wire lath, plastered two coats, with hard finish. The roof to be of structural steel (very light construction) covered with tile shingles. Chimneys to be concrete and lined with flue tile. Floors in living room, dining room and halls to be of oak, with maple for kitchen and bedrooms. The windows are casement type throughout. Interior trim of living room and dining room to be of oak, with pine for bedrooms and halls, kitchen, etc. Modern plumbing and heating. Story heights and main dimensions: Cellar, 7 ft. 6 in.; first floor, 9 ft. 6 in.; second floor, 8 ft. 6 in.; attic, 8 ft.; outside dimensions of house, 30 ft. by 50 ft. The designer estimates the complete cost at \$7,984.

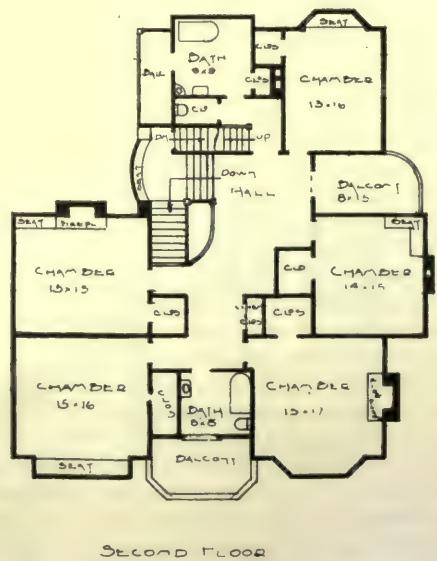
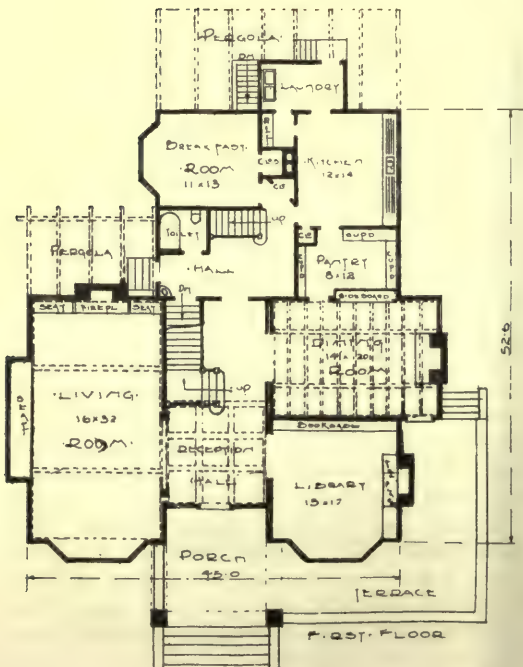


J. A. ANDERSON, Owner

LESTER S. MOORE, *Architect*

A Charming California Home

DESIGN " B 159 "

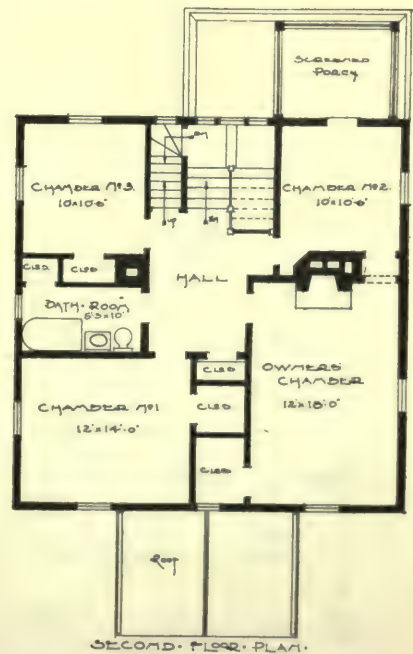
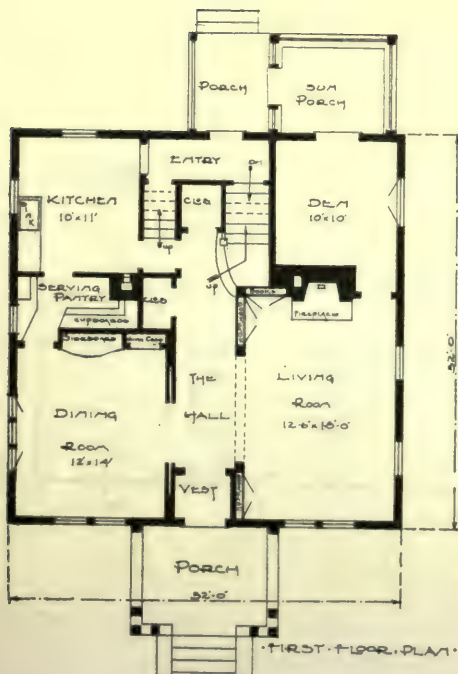




E. H. RYDLUN, Owner

A Simple Cement House

DESIGN "B 160"

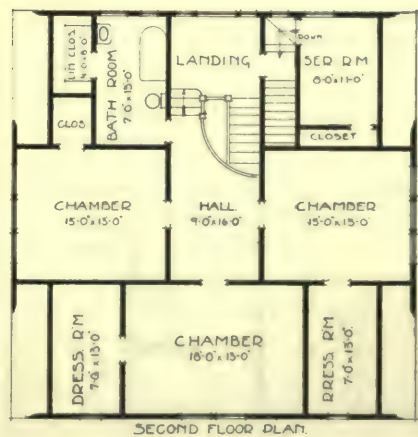
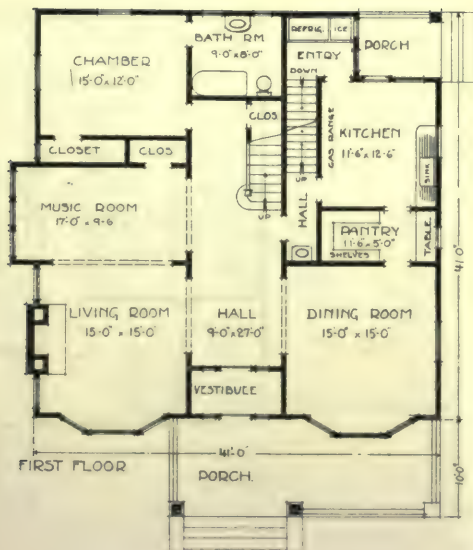




Journal of Modern Construction Series

A House of Picturesque Beauty

DESIGN "B 162"

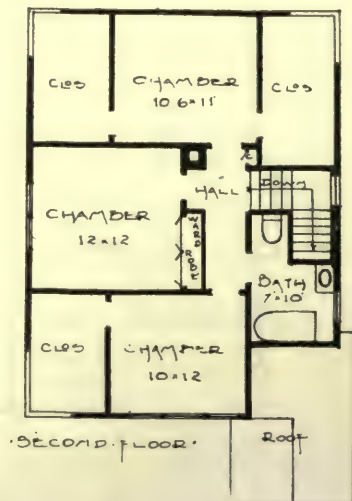
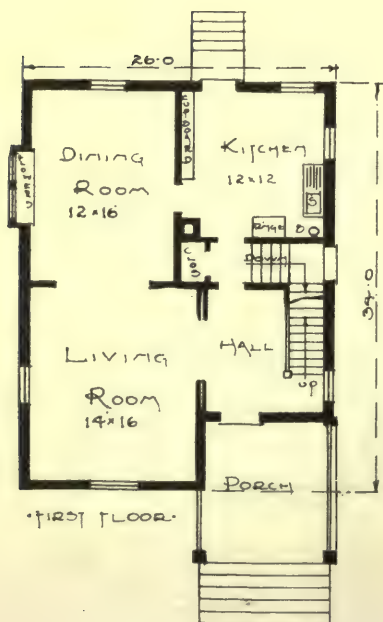




W. H. WALKER, Owner

A Cottage Design of Cement Blocks

DESIGN "B 163"

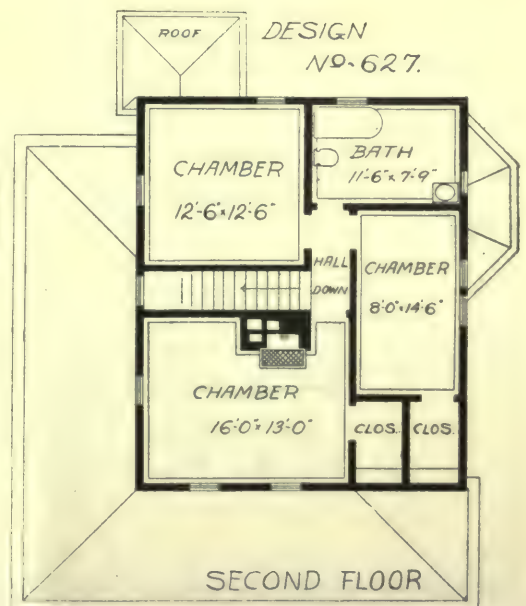
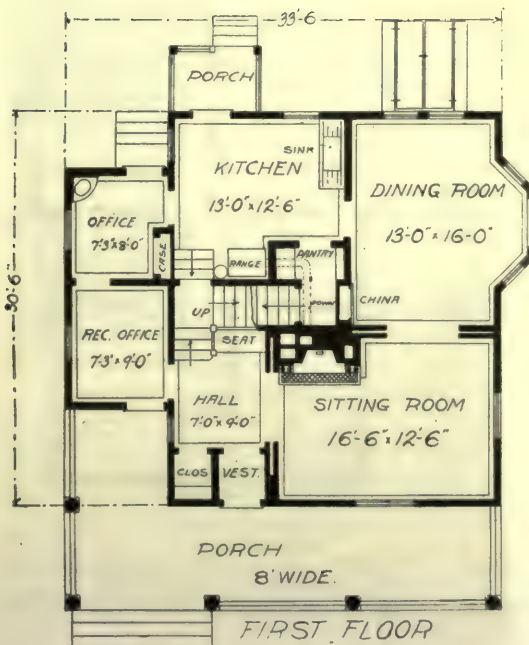




THE KEITH CO., Architects

A Physician's Residence

DESIGN "B 164"



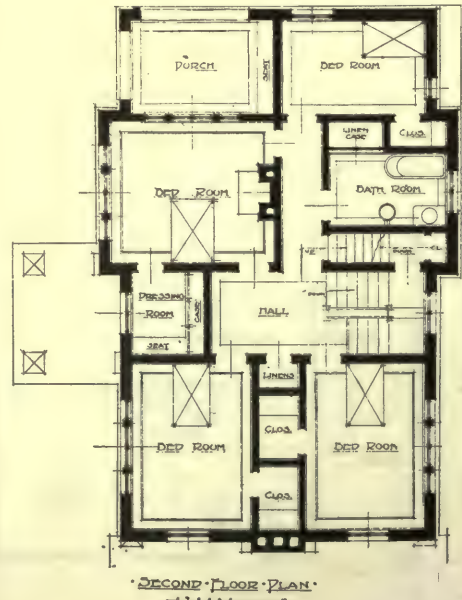
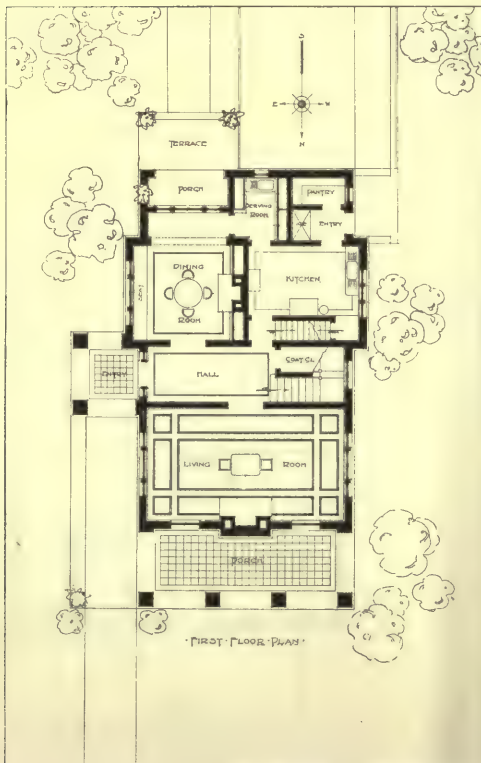


Courtesy of Universal Portland Cement Co.

JOSEPH M. HERRMANN, Designer

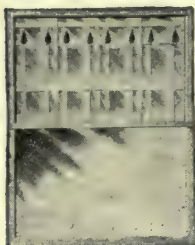
A Gabled Concrete House

DESIGN "B 165"



A CONCRETE HOUSE

Your Choice of the World's Finest Millwork at 50% Saving



Marquis Window,
\$4.02



Craftsman Front
Door, \$10.50



Tile Mantel, \$60.90

This one advertisement, with only five items, doesn't begin to impress you with the importance of having at your elbow this invaluable guide in your building operations. The great 5,000 Bargain Catalog should be the right-hand book of every builder or owner. You don't know and realize how much cheaper you can buy millwork until you see this catalog. You simply can't afford to be without the catalog any longer. Send for it at once—sign coupon today! The catalog will be on the way to you by return mail. The 1910 prices are lower than ever!

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Note the pictures in this advertisement and the astonishingly low prices. They have been picked at random from our great money-saving catalog, and there are 5,000 more just like them and just as low-priced.

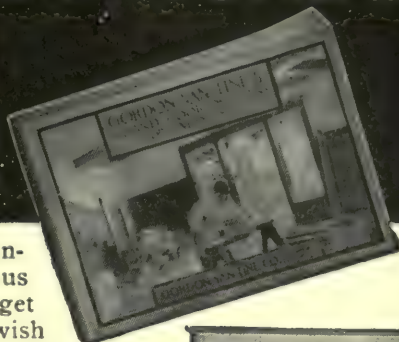
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Some Color Combinations

NO one can go about much without realizing that there is a dreadfully monotonous set of color schemes in vogue. Green is the usual panacea for parlors and living rooms, red for dining rooms, with occasional excursions into browns and blues, the latter the most depressing of all. Bedrooms are held to demand flowered papers, generally very showy roses, whose vivid tones promptly become neutral. As for kitchens, the traditional color is a green of a ghastliness absolutely unique. The average real estate dealer is stricken absolutely dumb at the thought of a yellow or gray kitchen wall, and begins to doubt the advisability of letting to lunatics.

A Matter of Suggestion

I suppose almost any successful color scheme is suggested by some accidental contact of colors, probably noticed in the most casual way. I have now in mind, not yet fully worked out, a scheme of greens and browns, which was suggested by the russet leather cover of a check book contrasted against a bit of green ribbon of a peculiar shade. You may find such suggestions everywhere. Picture galleries, dry goods stores, flower gardens, are full of them. The difficulty is of course in the carrying out, but that is the best part of the fun. That is if you care for those things and if you don't, it will not matter to you if your rooms are just like every one's else.

A great many charming things miss being done because of a lack of courage. Take the use of yellow for instance. In large masses it is, of courses, out of the question for the ordinary house. A satin brocade paper in vivid

yellow is too sumptuous in effect for any but a very imposing house. But take the same color in a dull surfaced paper and use it above a dark oak wainscot in a dimly lighted hall, with a rug whose prevailing colors are blue and yellow, some telling bit of dark blue china or pottery and brasses to relieve the sombre tones of the wood and you have a very interesting color combination.

Or you may vary the monotony of your second floor by a yellow bedroom, using a paper of real buttercup yellow with a stripe in self tone, meeting a deep frieze of golden yellow roses on a white ground, not a regular frieze but paper by the roll laid about thirty inches down on the side wall. With white woodwork and furnishings of cross barred white dimity and green rugs of a tone a little darker than the rose leaves, you will have an excellent setting for either mahogany or white enamel furniture, or for a very dull green oak.

Akin to yellow, but classed as warm color, is orange. Pure orange is overpowering and seems better adapted to costume than to decorations, but tone it down with brown and it is delightful either with blue or green. A very brown orange, like the skin of Indian River oranges, is a good wall color for furnishings of Spanish red velvet, but it demands a great deal of dark woodwork and a dim toned Oriental rug.

You get the combination of blue and orange in Turkish carpets, and the browner tones of orange are particularly good in satin. I have seen a furniture brocade in which orange was combined with a soft old blue and deep cream color. Some of the Liberty velvets have designs of brown and orange nasturtiums.

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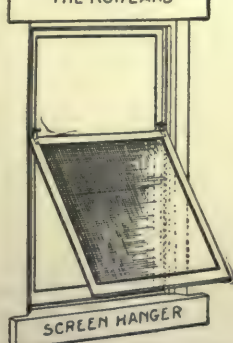
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Decoration and Furnishing—Continued

on a grayish green ground, which are most effective. One gets the tone in furniture of the wood called tuma, a natural mahogany. It is one of the colors which seems not to be adapted to cheap materials. Orange cottons are tawdry and the color is dreadful in paint or paper. But in satin, or velvet, or leather, how splendid it is.

The Purple Shades

We are apt to look askance at the use of the violet or purple shades in decoration, and rightly enough, for it is not a color pleasing in general use. It does not blend well with other colors, it is rather horrid in the cheaper materials, nor is it generally becoming to the inmates of a room. For these reasons it is most successful when used in a small room, a woman's den, or a music room. It is well to premise that the blue shades are impossible for decoration, owing to the way in which they are affected by artificial light. Only a purple or violet modified by pink or red is admissible. You get an excellent gamut of tone by shading up from the common lilac.

The Treatment of An Alcove

Here is a suggestion for the use of violet tones in an alcove, opening off a large room treated in gray or green. Such an alcove is a charming addition to a long room when utilized for placing the piano. Its effect is much improved if the floor is raised a few inches above the level of the adjoining room, the two being separated by some arrangement of pillars and balustrades.

Have the walls wainscoted to a height of about five and a half feet. Above this cover the walls with a paper in pinkish purple tones, a sort of tapestry effect. Such a paper is not easy to find, but diligent search among the imported papers, either German or English, will give you a certain amount of choice. Or you may find a cretonne whose general effect is a tangle of grapes and leaves. Or you may have the walls painted in oil, stippled to give a slightly varied surface and have them stencilled in an elaborate design of grapes and leaves. For this you would use for the ground color a rather dark lilac, for the stencilling various shades of plum. The wainscoting should be stained brown a

warm tone of old oak, the color that you find in Jacobean furniture, whose typical piece is the high backed chair with a more or less elaborately carved frame, seat and back of canewood. At the window hang sill length curtains of lilac Rajah, which comes in beautiful tones of color. If you want to edge them with fringe or gimp you will probably have to have it dyed to order, but a hem-stitched edge is quite as effective. If you have thin curtains let them be of the gray Arabian net.

Have the exact tone of your oak woodwork reproduced in wicker chairs and settle, with plum colored corduroy, or cotton velvet for cushions. If you use the room for the piano, you will need no rug, otherwise the best choice is one of the Chinese wool ones in brown tones. Here and there against the wainscoting hang pewter plates, the duller the better. If you have a collection of old silver display it on a table with a piece of violet brocade under it. Have a silver or gray pottery bowl, holding a flowering plant with violet blooms.

And somewhere you may pick up a copy of some old miniature, a powdered beauty in a violet gown, whom you may like to hang in a panel, in a narrow silver frame.

The Violet Bedroom

When it comes to sleeping rooms, you may do some very charming things, using a gray wall, with an upper third of a flowered paper, either in lilacs or wistaria. Papers with either flower, and of very good design, are in the market, and can be matched in cretonne. With wistaria you may make a charming wall with a little patience. Cover the walls first with a putty colored cartridge paper, finishing at the ceiling line with a moulding in a little deeper tone of gray, using the same for the woodwork of the room, a still darker tone for the floor. Get a roll of paper in the wistaria design and cut out long sprays of blossoms and leaves. Arrange them around the walls in such a way that they form a frieze, but a frieze of irregular outline, thicker in some places than others, as would be the case with a real wistaria vine. You will need to fasten the sprays in place with thumb tacks, before you paste them perman-

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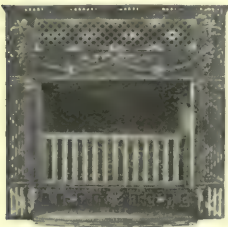
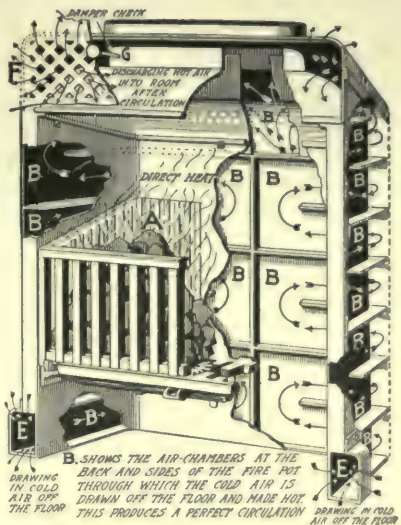
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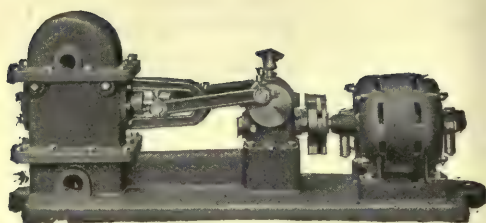
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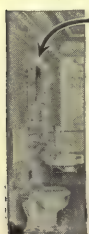
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Decoration and Furnishing—Continued

ently, as you must be able to judge of their effect when seen from the room below. With curtains and furnishings of a matching cretonne, furniture enameled gray and gray basket chairs, you have a good color scheme for a summer bedroom with a southern exposure.

In another issue we will consider some other color combinations a little off the beaten track.

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The latest development of the cedar chest has a back, so that it makes quite a comfortable seat, when fitted with a loose cushion. In the four-foot length, such chests are about eight dollars. Perhaps a better investment is one of those which are made to roll under a bed, as the peculiar color of the cedar is not specially harmonious with other woods.

Swing Top Tables

The ironing table with a swinging top is common enough, and makes one of the best possible writing tables, when stained and waxed. Until the present season it has always been difficult to find those with circular tops, but such has been the demand for them in bungalows that they are regularly carried by the larger department stores. The smallest has a diameter of forty-two inches, and there are larger sizes. The circular ones are not so pretty when closed as the oblong ones, but are much better for dining tables, and specially adapted to apartment house use. The box in lower part carries comfortably the tablecloth or doyleys and all the small silver used on the table. As they come in the natural wood they can be stained any desired color.

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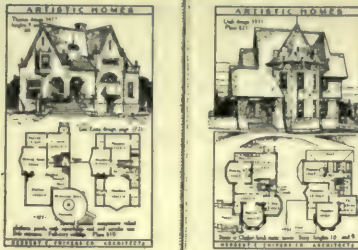
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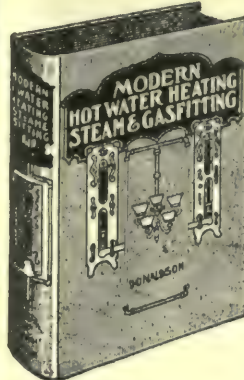
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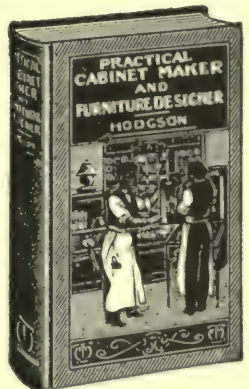
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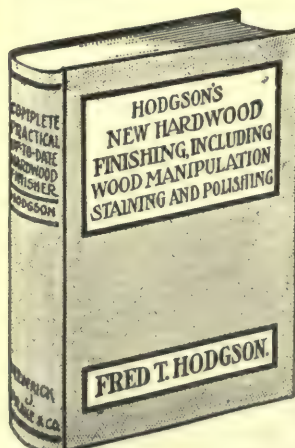
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ANSWERS TO QUESTIONS ON INTERIOR DECORATION

Editor's Note—The courtesies of our Correspondence Department are extended to all readers of Keith's Magazine. Inquiries pertaining to the decoration and furnishing of the home will be given the attention of an expert in that line.

Letters intended for answer in this column should be addressed to Decoration and Furnishing Department, and be accompanied by a diagram of floor plan.

Letters enclosing return postage will be answered by mail. Such replies as are of general interest will be published in these columns.

S. D. P.—I am inclosing a floor plan of our bungalow. I would like you to send me color scheme for walls, rugs and curtains. I want my dining room and living room, which is all in one, furnished in Mission. For the southeast bedroom I have a suite of birds-eye maple and a suite of golden oak for the northeast bedroom. I want the walls all papered.

S. D. P., Ans.—As you have Mission furniture for your living and dining room your woodwork will look best with a brown or dull green stain and the walls should have some strength in color tone. The room is so well lighted that any color may be chosen.

In your climate a soft green in an all-over inconspicuous leaf design would be agreeable, with a pale ecru ceiling. In the hall facing north, use a conventional design in the ecru with the same ceiling as living room and do the northeast chamber with a delicate ecru chambray paper outlining all the corners up and down with a gay banding of pink and yellow roses, carrying the same border around the top of the baseboard and the picture molding. Have a cream ceiling and cream woodwork. The southeast chamber could have a green and white snowball paper and the bath between be all white.

R. M.—I would appreciate a suggestion from you as to wall decoration and curtains for the living room of our proposed home. The living room is 20x13-6 feet, extends across the north side of the house, with five windows in a shallow bay across the north side, a high window on either side of the fireplace at the west end and two high windows overlooking the porch at the east end. I had thought of decorating in browns and yellows. The woodwork will be dull oak.

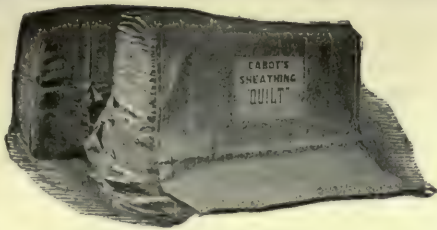
R. M., Ans.—Your idea of colors for the northeast living room is good, but

the yellow should be used in touches only. For instance, you could take one of the German duplex fabric papers in a golden brown with indefinite design outlined in a darker brown and with this a plain cream ceiling, curtains of cream or ecru cross-bar scrim at the large group of windows and a rug in browns and ecrus. You could then use little short curtains of deep yellow silk or sun-dur at the small, high windows and introduce the yellow again in pillows, lamp-shades, etc.

The upholstered furniture could be brown for some pieces and a material introducing cream with red touches or light green, for others.

J. O.—Would a mahogany mantel be in good taste in a living room with early English oak furniture and the woodwork of the room stained early English, or should the woodwork be stained mahogany? Would the Early English oak furniture go all right with mahogany mantel and woodwork, or what kind of mantel would you suggest, and for the tints of the walls would a cream or a brown be pretty? The dining room opens off the living room with a large sliding door, with golden oak furniture in the dining room. What would you suggest for the woodwork? Would golden oak stain be best, or should it be stained the same as living room? For the bedroom with mahogany furniture, how about the woodwork being painted cream with either a light blue or a cream tint for the walls?

J. O. Ans.—Replying to your inquiry about interior woodwork, it is advised to use the Early English oak stain manufactured as per name sent you. Send to this manufacturer for sample and directions. The same stain should be used in the dining room, as both living and dining room furniture will be in better accord with it than with mahogany. The



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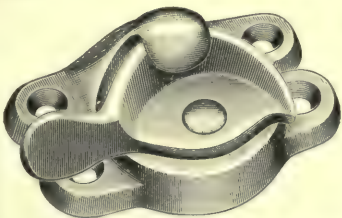
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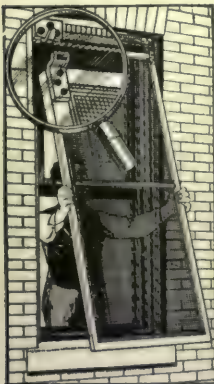


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¶ We will be very glad to mail you on request our booklet, “Modern Wood Finishing,” containing numerous reproductions in color, and many valuable hints on home decorating and treatment of woods.

SOLE MANUFACTURERS
THE BRIDGEPORT CO.
WOOD FINISHING CO.
NEW MILFORD, CONN. U. S. A.
(NEW YORK, CHICAGO, PHILADELPHIA, BOSTON.)

Answers to Questions—Continued

mantel must, of course, be the same as the other woodwork. The ecru wall tints with deep cream ceiling would be in good harmony for living room, but the dining room might have more color introduced, as old blue.

Cream or ivory woodwork will be excellent in the bedroom, and the wall may be tinted soft green or blue or ecru, as preferred.

H. S. E.—Am sending a plan of my home. Woodwork in natural finish, yellow pine, oak floors in living room, dining room and both bedrooms, linoleum on bath and kitchen, sideboard built in wall, kitchen and bath oil painted walls, other rooms tinted. Kindly suggest tinting for walls, window hangings and rugs. Only small rugs to be used. Suggest furnishings for living room and dining room.

H. S. E. Ans.—In reply to your recent inquiry, it is suggested to treat the living and dining rooms with wide opening between, together. As these rooms occupy the south side of the house, a wall tint of soft old blue would be agreeable in the dining room with ceiling a lighter shade. The blue coloring can be carried into the living room in the rugs, draperies and furniture coverings with putty grey side walls and lighter tint of same on ceiling. In the dining room, use a Wilton Moresque rug in size 9x12, in a mottled blue effect. This kind of rug is inexpensive, this size costing but \$25.00, and is suited to dining room wear. The curtains can be of white scrim, cross-barred with a line of blue. The furniture brown oak. It is advised to use one large rug in these two rooms rather than sev-

eral small ones, as the small ones are very troublesome to keep in place in living rooms. Small rugs in bedrooms beside bed and dresser are a very good choice. If small rugs are used in living room, they should be orientals.

The blue of the living room furnishings should be a deeper, stronger blue than the dining room wall, but harmonizing in tone. The best large rug for this room is a 10x14 Saxony, for the central place, with a small size, 3x6, to match in alcove. These rugs come in rich, plain colors with a plain border in same color, but darker than center. The furniture here best be brown oak with some wicker pieces mixed in. The natural wicker upholstered in blue tapestry, velour or rep would be very attractive. The seat in nook could have a cushion of blue taffeta or rep. Curtains of cream all-over net in block design, with side over draperies of blue, would complete a very charming room.

The two chambers should have the woodwork painted white; the walls of one could be tinted Dutch pink with white ceiling, small rugs of deep pink in small all-over design of Body Brussels and white curtains. The other room walls tinted a soft, dull yellow with white ceiling and rugs in soft tan color. The smallest size that comes in Body Brussels is 4-6x10-6 and costs \$12.00. These rugs are charming as well as very serviceable for bedrooms. You could use just two yards of the carpet each side of the bed. The carpet costs \$1.75 per yard. There are also cotton rugs, very pretty, as low as \$4.00.



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Wood-preserving oils
waterproof the shingles
and carry the color properly.

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It tells you the things you ought to know about buying mantels—how to select the most appropriate mantel for any room in new or old houses.

Voss Mantels

have nothing in common with the ordinary stock mantel. Made in a great variety of simple, correct designs. For any room in the house—just the style that will add the greatest charm and distinction—at a surprisingly moderate cost.

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WE are desirous of seeing every purchaser of our books also a subscriber to *Keith's Magazine* and therefore make the following very attractive combination offers. If you have already ordered a book and wish to come in under one of these offers, send the difference.

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With 100 designs—Bungalows and Cottages	\$1.50
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With Practical House Decoration (162 pages) illustrated	2.00
With 182 Beautiful Interior Views	1.75
With any (2) dollar books I publish	2.75
With any (2) books I publish (including 100 designs, Bungalows and Cottages)	3.00

These offers have a greater value than ever on account of the enlargement of the magazine, increased to 80 pages for January 1910 number.

MAX L. KEITH, Publisher

399 Lumber Exchange

Minneapolis, Minnesota



Paying for Someone Else

There is a strong sentiment in the minds of most people against any form of direct taxation. It is this sentiment which complicates the whole machinery of government, and lies at the root of the permanent opposition to anything in the shape of an income tax, as often as one is proposed, an opposition which has very little rational foundation. But we all of us pay our indirect taxes cheerfully enough, often not knowing that we are paying them at all.

How many of the women who patronize the department stores realize that a definite percentage is added to the cost of every article purchased, to recoup the losses to the firm caused by the irresponsible and careless purchaser? You who always pay cash are mulcted for the benefit of the charge customer, that the firm may not lose the interest on her delayed payment. Your carefully chosen purchases, paid for over the counter, and never returned as unsatisfactory, pay the tariff for the lady who has goods sent on approval and returns them after many days, decidedly the worse for wear. You who carry home all your small parcels as a matter of principle, have a penny or so added to your purchase price for the sake of her who has had a pair of gloves sent by special delivery to a suburb five miles away, the messenger going out with the gloves in the same trolley as herself.

In a larger degree it is the same with the grocer and the butcher. If you doubt it, it is easy to make a practical test. In every town there is at least one strictly cash grocery store. Order say a dollar's worth of standard groceries, cereals,

cocoa, flour and the like. Duplicate your order exactly at the grocery where they have a large proportion of credit custom, and you will find a difference of at least ten per cent, trifling perhaps on an individual order, but aggregating many dollars in a year. If you investigate the matter of meat, you will probably discover a difference of about two cents a pound in favor of the man whose custom is strictly cash.

One can tolerate a great deal of what seems like imposition if it seems to benefit anyone. But a great deal of this overcharging seems to benefit no one at all, except the irresponsible and the financial derelicts. Therefore it is quite natural to seek for a remedy, a remedy which might have been found long ago, but for the general disposition of people to avoid facing plain facts.

Some Remedies

In the case of the ordinary retail tradesmen, it is comparatively easy to choose those who sell for cash only, or on a system of weekly accounts. The grocer or butcher who is paid regularly by the week can sell on a closer margin than he who waits, one month, or three, for all his largest accounts. If, as sometimes happens, the cash grocer is not so well stocked with the finer sorts of canned goods, and the like, it is easy enough to supply his deficiencies from the wholesale grocers in the large cities who have retail departments. The grocery departments of department stores usually sell goods of this sort more reasonably than the average retail grocer, with the added advantage that sales are so large that goods are sure to be fresh.

As to the case of the department stores,

How to judge an advertisement
before you use it

John Lee Mahin has prepared ten tests whereby the advertising value of newspaper and magazine advertisements, street car cards, posters or any other printed matter may be judged. These are not mere theories, but ten real tests. Applying them you arrive at the calm, cold reasons for or against the copy you have in mind.

These ten tests have proved themselves over and over. All ten of them have been applied to this advertisement. A complete set of these tests sent on request. Address

Mahin Advertising Company

930-980 American Trust Building Chicago

Household Economics—Continued

the only hope is in the creation of an intelligent sentiment among women which will discourage the existence of the irresponsible female, who is the plague of these establishments, as effectually as it discourages the shoplifter. If the various organizations of women could take up the matter as they have taken up already the matters of proper conditions in work-rooms and of seats for saleswomen, it would seem as if they and the proprietors of the large establishments might meet on some satisfactory basis.

What we really need, after all is said and done is a sensible application of the Golden Rule. When that is studied with a view to putting it on a working basis we shall begin to see great improvements in every department of the conduct of life.

Points About Cooking Fish

Here are a few points about cooking fish, gleaned from an authority on the subject.

In boiling fish do not drown it. The

less water used the better. Use a small pan or kettle and have only two or three inches of water above the fish. Allow ten minutes to a pound of fish, and add the juice of a lemon or a tablespoonful of vinegar to the water, as well as two teaspoonfuls of salt. Put the fish into boiling water and as soon as the boiling, interrupted by the lower temperature of the fish, is resumed, draw the kettle to one side and let the boiling go on very slowly. Serve immediately, but if you must delay do not leave the fish in the water but drain it and cover it with a thickly folded cloth.

In baking a fish much depends upon the seasoning and upon constant basting with butter. Or if this is not practicable, put enough milk in the baking dish to come up to the fish but not to cover it and bake till it separates from the back bone, or till a fork stuck into it comes out clean. A seasoning mixture for baked fish, to be scattered over the pan and over the fish itself, consists of four ounces of bread crumbs, two ounces of parsley and one of chopped onions, to which fresh or dried mushrooms may be added.

In broiling fish, a process which is best suited to dark-fleshed fish like mackerel or blue fish, score the fish to the bone, rub it with salad oil, pepper and salt. Have the gridiron greased, the fire perfectly clear and hot, and broil the fish, turning it only once. Have a hot platter ready, butter the fish generously and serve immediately.


In frying fish have it perfectly dry before crumbing it. Beat an egg with a teaspoonful each of water and salad oil, and brush it on to the fish. Have a waxed paper covered with crumbs and roll the fish in it, letting it lie in them some time. Then shake off the loose crumbs and roll a second time in cracker dust. Fry in deep fat which has boiled several minutes. It should be at least three inches deep. Lower the fish into it with a wire basket or a skimmer, and when lightly browned lift it out and drain it on brown paper or blotting paper.

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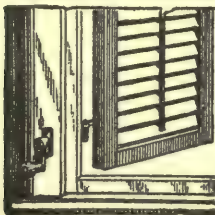


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by warming your home with our open grate fire that does **More** than look bright and warms **More** than one room.

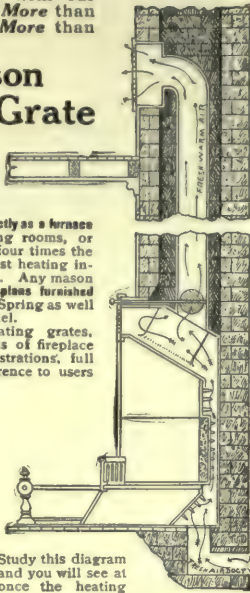
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does all these things, and **More**. It draws in fresh air from outside, warms it by circulating it around the fire in a warming chamber and then pours it out into the room thru the register over the arch, just exactly as a furnace does. It warms several connecting rooms, or other rooms upstairs, furnishing four times the heat from the same fuel. The best heating investment for a cheer-loving home. Any mason can set it up from our complete plans furnished free. Heats the house in Fall or Spring as well as a furnace with about half the fuel.

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Many styles of grate and Mantels to choose from.



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This book tells how to select the home Refrigerator, how to know the poor from the good, how to keep down ice bills, how to keep a Refrigerator sanitary and sweet—lots of things you should know before buying ANY Refrigerator.

It also tells all about the "Monroe," the Refrigerator with inner walls made in one piece of solid, unbreakable, White Porcelain Ware an inch thick and highly glazed, with every corner rounded. No cracks or crevices anywhere. The "Monroe" is as easy to keep clean as a china bowl.



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DIRECT and at
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The "Monroe"

Most other Refrigerators have cracks and corners which cannot be cleaned. Here, particles of food collect and breed countless germs. These germs get into your food and make it poison, and the family suffers—from no traceable cause.

The "Monroe" can be sterilized and made germlessly clean in an instant by simply wiping out with a cloth wrung from hot water. It's like "washing dishes," for the "Monroe" is really a thick porcelain dish inside.

The high death rate among children in the summer months could be greatly reduced if the Monroe Refrigerator was used in every home where there are little folks.

The "Monroe" is installed in the best flats and apartments, occupied by people who CARE—and is found today in a large majority of the VERY BEST homes in the United States. The largest and best Hospitals use it exclusively. The health of the whole family is safeguarded by the use of a Monroe Refrigerator.

When you have carefully read the book and know all about Home Refrigeration, you will know WHY and will realize how important it is to select carefully. Please write for book today.

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THERE is a fascination in seeing the inside of other people's houses, particularly where taste and the artistic atmosphere prevail. We have examined hundreds of interior views and selected from them 182 of the best, each one of which has some special feature of interest and merit. A group of modern Halls, Stairways, Living Rooms, Dens, Fireplaces, Dining Rooms, Bed Rooms. Be sure to order this book and add to your ideas for interior treatment, style of fireplaces, cozy seats, wall decorations, price \$1.00. **THIS BOOK WITH KEITH'S FOR ONE YEAR, \$1.75.**

M. L. KEITH, Lumber Exchange Bldg., Minneapolis



Vegetarian Suggestions

One may not be a convinced vegetarian, yet find the temporary practice of the cult a convenience. The country butcher is seldom a joy to city folk obliged to depend upon his resources. Sometimes he passes your door at a triumphant trot, wholly oblivious to your anguished signals, sometimes you find your choice restricted to liver and salt pork, by the time he reaches the remote section of the village which has approved itself to you for other reasons than culinary ones.

Under such circumstances it is a great comfort to be independent of him, as you may be, if you cultivate vegetarian tastes. Too many people are prejudiced against vegetarianism because of its monotony. They seem to think of it as an endless succession of dishes of boiled cabbage. Now the nutritive value of cabbage is very slight and were it an essential element of vegetarian living there might be reason for the prejudice. But you do not find cabbage occupying a prominent place in vegetable menus. That is taken by the tubers, which are rich in carbo-hydrates and form fat and heat. It is quite possible to manage a sufficiently nutritious bill of fare without meat if you reinforce the vegetable elements with cheese, a liberal amount of butter, oil and eggs. These devices do not, it is true, meet the case of the people who miss the slight stimulation afforded by animal food, but they are not very numerous. And, aside from its convenience in hot

weather, a vegetable diet gives the digestive organs a much needed rest.

In planning a vegetable menu a good foreign cookery book is of the greatest assistance. The continental peoples understand cooking vegetables as English and Americans do not. While most of their recipes seem very elaborate at the first reading, they can usually be simplified. A second reading will show you items which can be eliminated, and substitutions are in order. Milk or cream may take the place of chicken or veal broth, a bouillon capsule supply the cup of beef stock so often recommended. What is known as Kitchen Bouquet contains most of the unusual seasonings mentioned. If a casserole is not at hand, an earthen pipkin, closely covered, answers the same purpose of slow cooking.

One of these books, now before me, contains no less than forty-eight modes of cooking potatoes, and something like two hundred ways of cooking other vegetables. This number of recipes takes no account of the various preparations of cheese, of the many ways of serving eggs, or of the Italian pastes, macaroni and spaghetti.

Using Cheese

It used to be thought that cheese was very indigestible; the latest dictum is that uncooked cheese is perilous, but that cooked cheese may be eaten with safety. It is probable that the numerous indigestions of the past supposed to have been due to Welsh rarebit were purely imaginary. So the way is open to all sorts

1847 ROGERS BROS.

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TRIPLE*"Silver Plate that Wears"*SILVER
PATTERN

The famous trade mark "1847 ROGERS BROS." on spoons, forks, knives, etc., guarantees the *heaviest* triple plate. Send for catalogue "U35."

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MAPLE AND
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One important feature is the wedge shaped tongue and groove which enters easily, drives up snug and insures a perfect face at all times without after smoothing, an advantage that is not obtained by any other manufacture.

Our method of air-seasoning and kiln drying has stood the test for twenty years.

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HERMANVILLE, MICHIGAN

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No. 48
"Leader" Hess
Steel Furnace
Price \$49
Delivered East of Omaha and
North of Ohio River
Pipe and Register Extra

We will deliver a complete heating equipment at your station at factory prices and wait for our pay while you test it during 60 days of winter weather.

The entire outfit **must** satisfy you or you pay nothing. Isn't this worth looking into? Could we offer such liberal terms if we didn't know that the Hess Furnace excels in service, simplicity, efficiency, economy?

We are makers—not dealers—and will save you all middlemen's profits. No room for more details here. Write today for free 48-page booklet which tells all about it.

Your name and address on a post card is sufficient.

HESS, 717 Tacoma Bldg., Chicago

Hail, Fire and Storm Proof Roofings!

If you want a Roofing with Good Wearing Qualities at a Reasonable Price —

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will give you entire Satisfaction. Withstands all weather conditions, also Fire and Acid Proof. Comes in Rubber, Sand, Granite and Burlap Surfaces. Complete lines of Building Papers and Roofings.

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Better Homes Cost Less you find, when you examine Sedgwick plans. The years you are to spend in your home, the enjoyment you are to get out of it, the money you put into it, all make it plain that you should make yourself as expert as possible choosing your home. "BEST HOUSE PLANS" is my book of 200 modern homes—full of ideas, showing new architectural work. Designs which are unique for homes costing \$500 to \$6,000. Send NOW for this beautiful book, Price \$1.00. New, large and unproved 8th edition just off the press. To those interested, a New Book of Churches FREE. CHAS. S. SEDGWICK, 1028 K, Lumber Exchange, Minneapolis

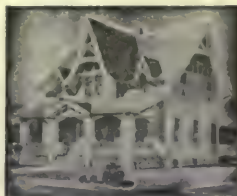


Table Chat—Continued

of savory dishes with a cheese foundation, and it is comforting to know that it is specially rich in proteid, proteid moreover at a comparatively low cost.

In cooking cheese, too many people are apt to assume that anything bearing the name is good enough. Never was such a mistake. A tough, mild cheese, such as they call white oak in some parts of New England, may be palatable enough eaten raw, but it is stringy and flavorless when cooked. Only a sharp cheese and one rich enough to crumble in the fingers is suitable for cooking. Sometimes a mild rich cheese is the only ordinary sort to be had, and it may be improved by an addition of a small quantity of a highly flavored cheese like Roquefort. Most preparations of cheese require an addition of butter, all of them a little salt. The inexplicable flatness of so many carefully prepared dishes is due to just this deficiency of salt.

There are a number of vegetables which, with an addition of cheese, become exceedingly substantial. They are

potatoes, cauliflower, onions and tomatoes, and for the two first the process is generally the same as for macaroni, although it is better to substitute a cream sauce for the plain milk used for macaroni.

With tomatoes and onions the process is different. Tomatoes are first stewed, and well seasoned. Then a liberal allowance of grated cheese is beaten up with two eggs, the stewed tomato poured over it, the beating going on at the same time, and the mixture returned to the fire to thicken, just as one makes soft custard. A can of tomato soup can be substituted for the stewed tomato. This same mixture of cheese and eggs can be added to a purée of white beans.

While it is quite admissible to add grated cheese to creamed onions, the better combination is made with fried onions. Brown the onions delicately in butter, salting them and peppering them lightly. Stir in a cupful of grated cheese, cover the saucepan closely and set it at the side of the range, or in a gas oven for half an hour. Serve with toasted brown bread.

With a vegetable soup and a good dessert, any one of these concoctions is sufficiently substantial for a summer dinner, and offers a deliverance from the butcher's cart. Certainly, in case of emergency, a vegetable diet is better than its usual alternative, the use of canned meats of doubtful origin and certain demerit.

Green Apple Pie

July brings the first green apples, and then is the time to revel in a pie, and perhaps there is no sort of a pie which is such a justification of the New England penchant for that dainty. But let the pie be of liberal depth, baked, not in a plate, but in a dish at least two inches deep, the crust of the thinnest and shortest variety. A suspicion of nutmeg and a dotting of bits of butter should not be forgotten. Then when the pie is baked to just the right shade of delicate brown, leave it where it will stay slightly warm, and serve it with a pitcher of cream, not whipped but plain. Its supreme merit will redeem a dinner of scraps.



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**Royal Round Hot
Water Heater.**

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Steam and
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**Insure Comfort
IN YOUR HOME**

See that Your Doors are hung with

STANLEY'S

Ball - Bearing Hinges

No creaking of doors

No need of oiling

No sagging

ARTISTIC BOOKLET FREE

THE STANLEY WORKS

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PROSLATE ROOFING and SIDING

For residences of all kinds you will not find a more attractive, more economical, more serviceable roofing and siding than PROSLATE.

DURABILITY:

PROSLATE is not an uncertainty—its base is our regular PAROID ROOFING which has stood the test of time in every climate—it wears as well as the best shingles.

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PROSLATE costs less than good shingles and clapboards and the cost of laying is much less. Anyone can lay PROSLATE.

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PROSLATE is a rich, reddish brown in color. We can furnish PROSLATE with either straight or ornamental edges. The latter gives the effect of a slate or shingle roof.

Your buildings will be the most attractive in your neighborhood if covered with PROSLATE and you will save money.

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F. W. BIRD & SON, Makers

ESTABLISHED 1817
EAST WALPOLE, MASS.

A Perfectly Heated Home

YOU might just as well have that new home properly heated and ventilated while you're about it and know that your system of heating is not costing you unnecessarily large bills for fuel. The "Jones" Side Wall Registers insure perfectly working warm air heating plants and the greatest amount of heat from a given amount of fuel, and the "Jones" System of Installation insures perfectly ventilated and perfectly heated

HOMES

Our improved "Jones" Registers have been installed in more than 350,000 of the most comfortably heated residences in the United States and Canada. We have prepared a neat little booklet, "Home, Sweet Home," which we will be pleased to send to you on request. It treats of the comfort and health to be derived from a perfectly ventilated and heated home, and incidentally gives a number of reasons for "Jones" superiority.

U. S. REGISTER CO., Battle Creek, Mich.

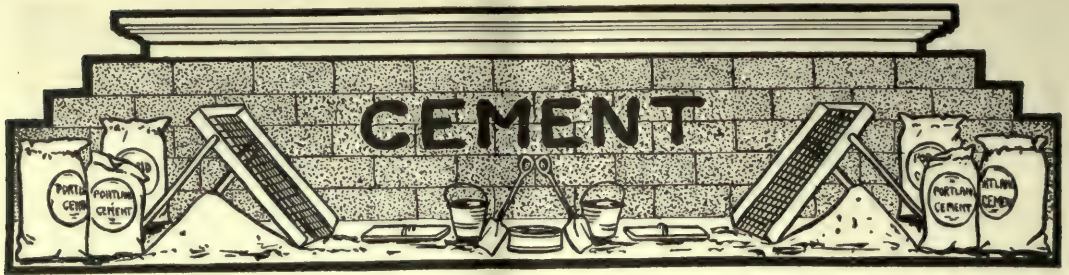
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THE "JONES" SYSTEM OF INSTALLATION



CONCRETE BUILDINGS IN CHINA.

Structures in Swatow are Several Centuries Old.

THE following information concerning the concrete industry of Swatow is furnished by Consul Albert W. Pontius, of that Chinese port:

The construction of houses and walls of concrete is an industry peculiar to Swatow. The work was instituted several hundred years ago, and the absence of any buildings or walls constructed of brick is conclusive proof of its stability and lasting qualities. The industry originated with a French priest, who constructed one of his chapels of this material.

Very small pebbles or shale, sand, and lime are the ingredients of which the material is made. The mixture, after being thoroughly incorporated, is slightly moistened, and then pounded in a rough wooden mold which is elevated in a runway supported by firmly set poles, and in spite of the crude methods employed, a height of 60 feet can be easily reached. When the walls have been constructed, all supports are removed and the concrete is for some days exposed to the air. To this exposure is its characteristic solidity solely attributed. The walls vary from 12 to 16 inches in thickness, and the cost of construction is considerably less than brickwork. The thickness of the walls give absolute guaranty of fireproof qualities. Storehouses and buildings constructed of this material many years ago are conclusive proof of its strength and durability. No single instance has been known of the accidental collapsing of such concrete-built walls.

In some instances split bamboo poles have been used to reinforce the material, the wood preventing cracks from appearing and adding to the strength. Bamboo

imbedded in the concrete in this manner does not rot, and it seems odd that the practice is not more general. Steel or iron reinforcing, owing to the added expense, is never used. The cost of construction is invariably figured at \$9 Mexican per Chinese chang (\$3.67 gold per 8 square feet).

New French Concrete Pavement.

A recent French invention in paving, says Cement Record, consists of imbedding in concrete fine iron shavings, or iron excelsior. The metallic shavings ordinarily come in sheets or masses, which can be broken apart with difficulty owing to the intertwining of the filaments, and which are somewhat elastic. In constructing paving blocks a mold is filled with these iron shavings and the interstices filled with cement grout sufficiently fluid to penetrate the entire mass. The blocks thus formed are said to possess great strength and resistance to abrasion, and also (what seems less credible) elasticity under blows or jarring. Tests made of such blocks are said to have shown a resistance to compression of about 150,000 lbs. per sq. in., and a tensile strength four times that of neat cement. One advantage claimed for this paving is that joints may be almost eliminated, thus doing away with the points where greatest destruction generally occurs. Nothing is said of the opinion which would probably be entertained of this pavement by a contractor who might be required to cut a trench through it. The cost of construction is said to be the same as that of ordinary macadam; but this would depend largely upon the cost of the iron shavings.

Building and Marketing Cement Silos.

An interesting address was given at the recent annual convention of the Northwestern Cement Products Association by Henry E. Murphy, of Manitowoc, Wis., upon cement silos, marketing them



Asbestos "Century" Shingle Roof—Union Passenger Station, Salt Lake City, Utah

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Asbestos "Century" Shingles are the first practical roofing material made of *reinforced concrete*. Hydraulic cement reinforced with Asbestos fibres—compacted by tremendous pressure. Absolutely fire-proof—weather-proof—time-proof.

Cannot rot, rust, crack, split or blister. They grow stronger with age. Require no painting or repairing. You are free for good and all from maintenance charges.

You can get Asbestos "Century" Shingles in three colors, Newport Gray (silver gray), Slate (blue black) and Indian Red—in numerous shapes and sizes. Talk to your responsible Roofer about Asbestos "Century" Shingles. Write for Booklet, "Reinforced 1910."

The Keasbey, Mattison Company

Factors

Ambler and Pennsylvania

Cement—Continued

and building them. Mr. Murphy took occasion at the outset to declare that his experience with the much assaulted dry process was favorable to it, and that he had made concrete blocks on the dry process which were dense, solid, substantial and enduring. Taking up the silo question, he outlined the question into five divisions—quality, cost, getting trade, credits and collections, and finally building the silos. The principal advantage of the cement silo is permanency, which falls flat if quality is neglected. The field is limited to the locality, as a rule, and it is essential to establish a standard and adhere to it persistently, in the fact of all cheap competition, either of poor work or of less durable materials. In their plant they make a careful selection of aggregates, adhere to a uniformity of product, using a 1:2:4 mixture, and have a variation per day of less than two blocks on a given quantity of cement used. The workmen employed should be of good reliable character, well paid, and retained as long as possible. A responsible foreman is essential, to have full charge of the work, and to be held to the duty of having it done right, to permit the employer to be absent in quest of business, without the work suffering. Records of the work done day by day should be kept, showing material received, quantity used, blocks made and number sent out, as well as a record of stock on hand and sizes. The record enables a keeping of the cost and also raises the efficiency of the men, who will be apt to do better work if they know their work is being kept. He urged to answer all inquiries about silos in person, rather than by letter. A contract

"Asbestos Roofing Slates, Shingles and Sheathings."

An instructive catalogue is that of the Keasbey & Mattison Company. It contains many illustrations of buildings where the products of the company were used, with details of the construction drawn to scale. These features are of value in deciding upon materials for new structures. Readers of "Keith's" will be specially interested in the houses shown. The section on wainscoting for bathrooms, kitchens and laundries and the various patterns of asbestos shingles, all carefully illustrated. Shingles of this kind cost a little more, but are laid once for all, making them cheaper in the end. Copies may be obtained at the nearest branch of the company.

was urged as essential in every case. In the matter of credits, he said that the standing of a prospective buyer should be known, and he had found that a cash discount brought in a great deal of money at once, although many would say they had to have time. The lien laws should be looked up, and familiarized, as they afford ample protection when they are utilized. The average size of a silo is 14 feet 6 inches inside diameter, and about 30 feet high. A concrete footing is laid 24 inches wide and 12 inches deep. The blocks are 24-inch outside and 22 inches inside length, and are tied together by a wire laid in a groove, and which connects with an iron band across the door opening, making a continuous circle. The inside is plastered smooth with a rich cement mortar. An outside ladder of iron rods is masoned into the wall. A scaffold is made the same as for a brick chimney. The cost of such a silo with a frame roof, 14½x30, complete with labor and material, is \$350, the blocks to be hauled by the purchaser. It includes a 12-inch wall at the bottom and 9-inch above. They cost about \$50 more than a stave silo, but are free from repairs, and are fireproof. The door is made with a special jamb block into which is fitted 2x6 boards, and inside is placed cheap building paper or felt, the pressure of the silage closing all openings. The silo is continuous for two feet above the ground, when the door opening starts, and a section below the top is also made continuous by means of a cap across the opening.

Civil Service Examination, July 13-14

The United States Civil Service Commission announces an examination on July 13-14, 1910, to secure eligibles from which to make certification to fill vacancies as they may occur in the Reclamation Service in the positions of assistant engineer at salaries of \$1,500 per annum and upward, and junior engineer at salaries of \$900 and upward.

Age limits: Assistant engineer, 25 to 45 years; junior engineer, 20 to 45 years.

Applicants should at once apply for application Form 1312 and a copy of the Manual of Examinations revised to January 1, 1910, to the United States Civil Service Commission, Washington, D. C.



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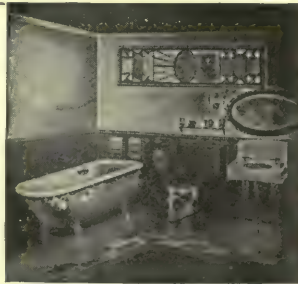
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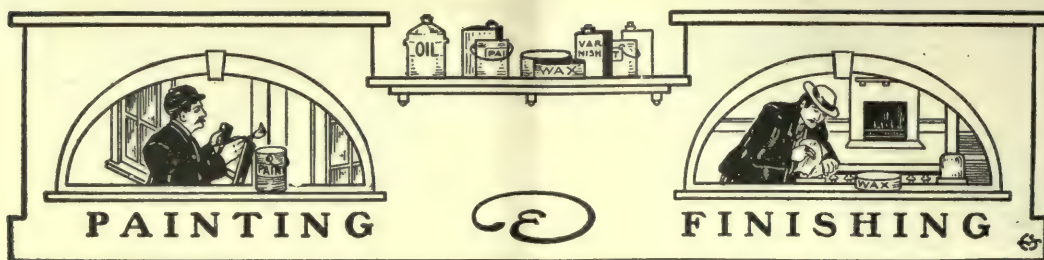
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Blistering and Peeling of Paint.

ONE of the complaints occasionally made in connection with the painting of frame houses is that the paint blisters and peels from the outside of the building, in some cases peeling clear to the wood. This is attributed in a measure to bad priming and painting when the wood is green or damp and much of it is doubtless due to this fact. Boiled or fatty oil has no place in a priming paint for wood, nor should a priming be stout. There is nothing better than pure lead and well settled, but not fatty, raw linseed oil, mixed fairly thin and without dryers for new work, and such prime should be rubbed well into the dry wood. Over such a priming paint is not likely to blister or peel, unless there are some local defects in the surface or behind it, such as plastering in damp weather, or leaky gutters on the roof.

In repainting old exterior surfaces the painter should, as an act of precaution, assure himself before he undertakes the work of the actual condition of the old paint, which may appear to be solid and intact all over, and yet, where the new paint has been applied over it for six months or a year, may loosen its hold, taking the new paint with it and coming off in large blotches. A tap on the old paint here and there will tell whether it is adhesive and solid, or whether it is loose. The new paint cannot penetrate through the old paint and fasten it to the surface; on the contrary, when contracting as it dries, it is liable to draw away still further from the wood, especially if the priming has been defective. It is advisable to remove all of the old paint, either by burning or scraping.

A New Decoration for Dens.

A new finish, for the walls of dens, men's bedrooms and other informal rooms has lately made its appearance. It consists primarily of an interweaving of wide

splints, of hard wood, set in a framework of polished wood, the finish of the splints being rather dull. It is applied to walls, either for their entire height, or as a lower two-thirds, below a landscape frieze or a tapestry or leather paper. It can be had in any stain desired, although it is shown in the shops only in a warm brown and green. A wall treated with it presents a series of narrow panels, or of alternating wide and narrow ones. It is an effective background for highly colored pottery, for hunting scenes in color and for copper and brass. The same weaving of splints is applied to a great variety of furniture, an agreeable change from the familiar reed and willow. The price of the furniture is about the same as that of the better qualities of reed.

Where it does not seem desirable to incur the expense of lining the walls with the splintwork, old gold or pale brown Japanese grass cloth would make a delightful background for furniture of this sort. It would seem to be admirably adapted to the living rooms of an all-the-year-round country house.

Shades for an Electric Light.

A very effective shade for an electric light bulb is of Japanese make. It is a section of a lantern, made of dark wood carved in floral forms, lined with thin silk, pale yellow, buff, or salmon pink. It is fastened against the wall over the bulb, with a backing of asbestos. Such a shade costs four dollars.

Solution for Removing Old Paint

The ordinary process of scraping old paint, or burning it off, is hardly expeditious enough for general purposes, and is also laborious. Soda and quicklime are far more thorough, and the paint is more quickly removed. The solution of half soda and half quicklime is thus made. The soda is dissolved in water, the lime is then added and the solution can be

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Painting and Finishing—Continued

applied with a brush to the old paint. A few minutes is sufficient to remove the coat of paint, which may be washed off with hot water. Many preparations are sold for the removal of paint, all of them having some basis of alkali. A paste of potash and strong lime is far more effectual in operation and the oldest paint can be removed by it. Afterward a coating of vinegar or acid should be used to cleanse the surface before repainting. One authority on the subject recommends gasoline lamp, a quart of oil being sufficient to last three and one-half hours. The method is considered superior to gas, as the flame is stronger and the cost less, besides which the lamp can be carried to any part, which cannot be done conveniently with a gas jet. But the use of flame of either is dangerous and to be avoided when possible. Many a house has been burnt to the ground from using jets of flame. For removing varnish, spirits of ammonia is used, but it is a slow process, and several applications are necessary. Scraping and sandpapering can be employed; but it must be done carefully by experienced hands, or the surface of the wood will be injured. The chemical process of removal has the advantage of leaving the surface in a better condition than burning off or scraping, and for large surfaces of paint work is to be preferred.

Removing Paint or Varnish.

Some years ago the only way to remove paint or varnish was in using the torch. But now some one of the several good "removers," or solvents, on the market, is preferred. Most painters use the remover and then clean with benzine and waste. Sometimes it takes two or three coats of remover before the paint is loosened enough to be scraped. But this is about the only way of removing paint, especially on doors and windows, except on floors and for doors

which can be taken down. With these I must say that I always preferred cleaning with "Gold Dust and ammonia." Dissolve a ten-cent package in a gallon of boiling water and add ten fluid ounces of stronger aqua ammonia. Apply one coat of good remover and leave stand for 10 minutes. Then apply on top this mixture. Take a stiff scrubbing brush and work it together till the ground of wood is obtained. When clean, rinse with water and bleach with oxalic acid. When dry the wood is ready for staining or varnishing.

How to Bronze a Radiator.

Can you tell me the best way to bronze a radiator and should the side next to the wall be bronzed?

The side next to the wall should be bronzed with one coat of bronze. Many years ago radiators were painted with varnish and the bronze rubbed on with a flannel cloth. This was a slow and costly method and the radiators generally looked like unto a spotted horse. The bronze and liquid are generally mixed, and the resulting mixture painted on with a brush suited to the work. A better, but somewhat slower method is to place the bronze and liquid in separate dishes. Now first dip the brush lightly in the liquid and then in the bronze, after which rub out the brush's contents on the surface of the radiator. Then renew the charge of bronze and liquid. It takes a little more time to put on bronze in this manner, but it will give a much better job, and the material will go much farther.

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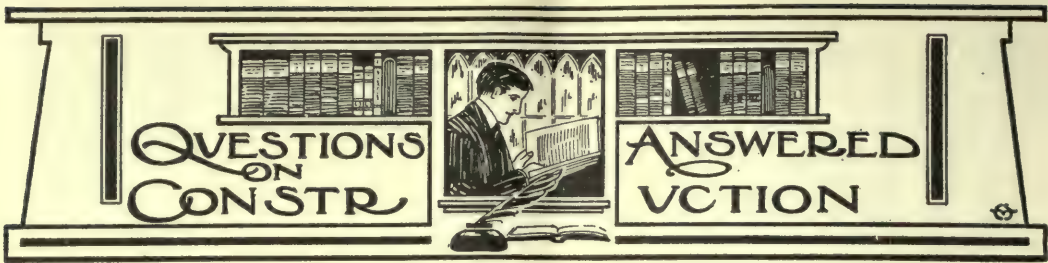
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Grey Finish for Cement.

B. R. H.—I wish the plaster of my house colored grey. A sort of a green grey. Will you kindly tell me what can be put in the last coat to do that without any bad result. A mason tells me if lamp black is used so large a quantity is required that it spoils the plaster.

B. R. H. Ans.—

To produce the greenish grey color that you desire for the exterior of your plastered home, it would seem that lamp black would not be the proper material. A grey or dark slate is produced by its use, according to the per cent employed. Yellow ochre gives a tint from buff to yellow, and with the addition of ultra marine, we think the exact green shade you desire can be obtained.

It would be well to experiment a little on a space about a yard square for each sample. Ordinarily, a proportion of 5 lbs. of coloring matter to a bag of cement is used for strong color effect. You will have to vary these in smaller proportions until you get the proper quantities and desired colors. The cement sand and coloring matter should be mixed dry. It will appear darker while wet than dry. It is true that in all cases the addition of mineral color causes a loss of strength, but this is not important as the color is used only in the surface coat.

You do not state what the exact finish of the exterior is. You will find that a coat merely plastered on, smoothed down, will not be satisfactory, because the joints will show, where different batches have been applied, causing an irregularity of surface. On the other hand, if the material is dashed on with a paddle or sink brush, it requires expert workmen to do it properly.

This is a matter you should look into, with your plastering contractor, before the work is too far advanced. The colors named above can be obtained from

any wholesale drug house. There are special cement paints now upon the market that are considered more satisfactory than color introduced into the concrete mixture. These goods are carried by our advertisers.

Oil Spots on Concrete Floors.

E. S.—What is the best way to remove oil spots from concrete floors?

E. S. Ans.—To remove oil and carbolic spots from concrete floors, make a thick paste of pipe-clay and apply to the places where the oil spots occur, when this paste has hardened, remove it, and repeat this experiment until the spots have gone. Another successful process is by covering the spots with pulverized burnt magnesia moistened with benzine, but care must be exercised, owing to the fact that the benzine vapors easily ignite. The latter process should be applied in day time only.

E. T. S. Please tell me if chestnut shingles, well seasoned, will turn to a soft gray like the cypress or if not satisfactory, will the creosote brown stains last ten years without changing, or would you recommend staining the shingles to make them keep a natural color. Will a shingled house be as warm in cold weather as any other kind, and would building paper, and what kind, be well to introduce in walls for additional warmth and dryness?

What would you suggest for interior walls instead of plaster, which would be sanitary, clean and inexpensive? Something nailed to the joists for first and second floors.

Ans. E. T. S. Making a detailed answer to your inquiries, I desire to say that the chestnut will not weather season to the silvery gray tone of cypress, but the gray shingle stain you mention would give you that effect. It will not hold the color ten years, however, before renewing. Dipping the chestnut shingles

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Its readers all say it is a work remarkably worthy, thorough and useful. The magazine costs \$3.00 a year.

But to have you test its value, for \$1.00 we will send you the current number and "THE HOUSE BEAUTIFUL" Portfolio gratis, on receipt of the Five Months' Trial Subscription coupon. The Portfolio is a collection of color plates and others of rooms in which good taste rather than lavish outlay has produced charming effects. The Portfolio alone is a prize which money cannot ordinarily purchase. Enclose \$1.00 with the coupon filled out and send to

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NAME

ADDRESS

TOWN OR CITY

STATE

Answers to Questions on Construction—Continued

in linseed oil would give them a very soft, brownish tone of varying depth, which would deepen and improve with age.

Yes, a shingle house is just as warm in winter as any frame house. A sheathing of building paper would be desirable.

We are sending you addresses, as requested, of board that can be substituted for plaster.

How to Build a "Sound-Killing" Wall.

The "sound-killing wall," between 50 and 54 East 59th street, which was built to protect the ears of the occupants of No. 54, has proved to be a success. The plans for the wall are the only plans for this type of construction ever filed with the New York City Building Department. They have been the object of great interest to the city's architects and builders, and it is thought that this "anti-noise" device may be adopted in other cities.

The second and third floors of No. 50 contain large printing presses. The upper floors of No. 54 are occupied by

apartments. The roar of the printing machinery proved so disturbing to the flat-dwellers that they appealed to their landlord for relief.

The landlord called upon an architect, and the architect designed the wall. It is made of hollow terra cotta blocks stuffed with mineral wool. The blocks are of the kind used in fireproof floors and partitions. They have been known as good absorbers of sound waves, but this is the first test of them purely for that purpose. The mineral wool, in the hollow space, serves as a muffler. The wall also keeps the odor of printers' ink out of the apartments in No. 54.

Cement should always be stored in a dry place. It should not be packed. The more finely pulverized it is, the stronger it will be. A good test of it is to take a quantity in the hand and roll it between the thumb and fingers or between the palms of the two hands. If it crumbles easily, it is in good condition.—Exchange.

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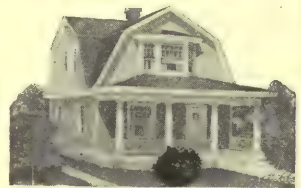
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It was planned by Chicago Architects, who rank high as designers

It is of moderate cost and the outside is of Plaster Work, now so popular.

Besides this, each number has other houses of low cost, including a Beautiful Bungalow with plans.

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FOSTER-MUNGER stairwork is not like the output of the average mill, but represents the very highest grade of bench work produced by master craftsmen.



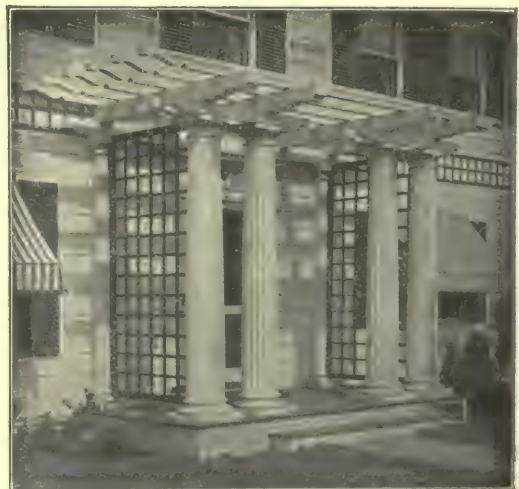
Balusters, Rails and Newel Posts in Oak and Choice Yellow Pine—thoroughly seasoned stock, perfect workmanship, very newest designs. Complete line kept in stock for immediate shipment.

Our catalog No. 108J and latest price list should be on your desk. If it is not, write for it today.

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Our Beautiful Booklet, "Pergolas"

Illustrated with views of some of the most attractive new homes and grounds showing exceedingly artistic results in pergola treatment. This booklet is right off the press, and is yours for the asking. Ask for Booklet G-27.

Proportions in columns make or mar the success and artistic effect of the pergola. That is why a pergola built with

KOLL'S PATENT LOCK JOINT COLUMNS

made in classic proportions, will insure your getting a charming and beautiful pergola. They are equally suitable for porches or interior work and are made exclusively by

HARTMANN-SANDERS COMPANY

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Flushing Valves.

ANOTHER invention, says Building Management, which may be applied to Sanitary Science is this form of valve used for the purpose of flushing water-closets. These valves possess various qualities among which are the following: They will operate under either high or low water pressure and can be adjusted to discharge certain desired qualities delivering this water without noise, and eliminating the troubles to which the valve and ball-cock are the natural heir.

Some of these flushing valves are so constructed that they do not require regulation of any kind and the variations of the pressure upon the street mains does not produce any effect upon the workings of this valve. The valve occupies little space, much less than that of any tank and is also in a position easy of access, while one movement of the handle or push button will cause the valve to operate and flush and the amount of water can not be made greater or less by holding on to the handle or push button, a certain amount only being delivered. This prevents an undue waste of water which is certainly worthy of consideration when the water is metered. They can be easily repaired and installed, are entirely automatic in their workings and are constructed to fit any design of closet in the market. Constructed of metal there is no wood about the apparatus to become soaked with water. This form of valve may also be applied to urinals and slop sinks and will be found upon trial to furnish a regular amount of water. Speaking in a general sense, these valves might be considered as water meters as they can be set to measure the quantity of water used and this amount of water can be increased or diminished according to the necessities of the occasion or the desire of the owner.

An Improved Closet Design.

For years past thought has been directed to the improvement of conditions about plumbing fixtures. All boxing was removed from about them, making the whole situation more sanitary and adding greatly to the appearance of the fixtures. A closet is illustrated which is a step in advance, as the floor space is left entirely clear beneath it, allowing the room to be more easily cleaned. The closet is known as the Alamo and is manufactured by the Federal Huber Co. of Chicago. The company makes the following explanatory statement:

The closet is above the floor supported by the stack and is fitted with a lever handle Watrous Aquameter, which is fully guaranteed and has been manufactured for twelve years. The closet cannot clog beyond the reach of the hand and ventilates at every flush, taking from fifteen to forty cubic feet of air down into the stack. It is a water saver and can be operated on one or two gallons of water, doing more effective work than the ordi-



THE ALAMO JETECTOR WALL CLOSET

We Built a Boiler With Windows in It

We learned by experiment that some boilers get twice the heat out of a ton of coal that others get. It is largely a matter of harnessing the fire and getting the most out of it while it is still hot.

So, to be beyond theory, beyond guesswork, we built a boiler with windows in it.

Through these windows we proved our experiments and perfected the new "RICHMOND" which, in actual practice, develops *double* the efficiency of ordinary boilers. And the day-after-day saving in coal will prove this to you, just as the windows proved it to us.

"RICHMOND" Boilers — Radiators

From ash-pit to radiator, the "RICHMOND" system embodies the newest and best that is known in heating. It is the crystalization of a hundred ingenuities—a hundred economies. It is adaptable to a three-room bungalow or a mammoth palace—to steam heat—hot water heat—direct or indirect.

Write Us

If you contemplate installing a heating system, steam, or hot water—direct or indirect—in your home or building, large or small, write us. Ask for catalog 246. Be fair enough to yourself to learn of a system which, by inventive ingenuity, saves its own cost, pays its own maintenance.

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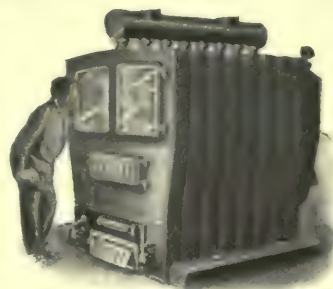
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FIVE PLANTS:— { Two at Uniontown, Pa.—One at Norwich, Conn.—
One at Racine, Wis.—One at Milwaukee, Wis.



By building a boiler with windows in it, we learned *certainly* about drafts, water circulation and fire travel which enabled us to perfect a heating system which doubles efficiency and halves the fuel bill.

We found, through the windows, that the flue is more important than other makers dream.

So, by patient experiment, we perfected a "diving flue" which costs us three to seven times as much as other makers spend for smoke-connections and makes it that much more efficient.

The "RICHMOND" "diving flue" takes the gases and smoke which would ordinarily pass up the chimney and sends them back, mixed with fresh oxygen, to burn anew.

For every shovel of coal you put in the fire-box this "diving flue" sends half a shovel back from the chimney.

The "Diving Flue"

The "diving flue" is our own invention. It is exclusive. It can be found in no boiler save the "RICHMOND."

The fuel economy it brings, more than repaid the experiment of the boiler we built with windows in it.

But the "diving flue" was not the only outcome of this experiment.

We learned more about drafts than had ever been written on paper.

We learned how to increase our heating efficiency from 90 square feet to 128 square feet, without adding to the size or cost of the boiler.

We learned how to build a cross circulation water way which does for the water circulation what the "diving flue" does for the fire travel.

We learned how to arrange doors and drafts and dampers so that tending the fire becomes a simple, easy, exact science, instead of a difficult, haphazard uncertainty.

Self-Cleaning Surfaces

We learned how to make 90 per cent of our surfaces self-cleaning—so more efficient.

And in countless ways, the boiler with windows enabled us to save half your coal, double ease, flexibility, satisfaction—without increasing the first cost of the heating system to you.

The "RICHMOND" heating system as perfected today represents the climax of inventive skill—a system that repays the pains we put into it every day you use it.

The "RICHMOND" system is small enough for a three-room bungalow. Big enough for a building that measures its floor space by the acre.

Heating and Plumbing—Continued

ary high or low tank closet using eight gallons, which means a saving of from seventy-five to ninety per cent of the water; and in addition the street pressure is always on the jet which gives the full force creating a solid water plug which will take everything down the stack that goes beyond reach of the hand in the bowl; and the wall connection is tested at every flush. In case there should be a slight leak at the wall due to the settling of the soil stack the leak would be instantly detected by a few drops on the floor and the man of the house could easily rectify same without the services of the plumber by using an ordinary nail in the cap nuts on the rods that support the closet to the stack. In the ordinary floor supported closet you never know when there is a gas leak and in addition the latter causes an ugly stain on the floor and foulness that is obviated by the installation of the Detector Wall Closets.

The Minneapolis demonstration was witnessed by all your prominent architects, engineers and high class plumbers

and they will tell you that the closet using one gallon of water would take out a long roller towel, a heavy gunny-sack, four and one-half pounds of cast iron fittings and similar stunts.

How to Enamel a Bath Tub.

Many times it is desired to re-paint the porcelain enameled bath tub in the bathroom. Sometimes it is necessary, for the plumber may have left without this part of the work. Now in case the bare iron sides of the tub are to be covered remove all the rough places first by the use of some emery papers. Scour the outside thoroughly but run the emery paper horizontally and do not cross the directions or some scratches may appear through the paint. An easy way to use the emery paper is to fasten it on a block of wood, say two inches thick, and three inches wide, by from four to six inches in length. It will be found a much better job of rubbing down can be done in this manner than by simply holding the paper upon the palm of the hand and the sides of the tub will also present a much smoother appearance.

After the outside of the tub has been thoroughly prepared the first coat of paint may be applied. This should have a good body and it will be an advantage if some zinc be added. The paint may be any color desired to correspond with the general harmony scheme of the bathroom.

After the first coat is thoroughly dry it should be rubbed down a little with a well worn piece of sand paper that is not dirty. The second coat of paint may then be applied after which, when it is thoroughly dry and hard the enamel may be applied and it will be found that the sides of the tub present a fine appearance which will rival the gloss of the enamel upon the inside of the tub. Do not make the mistake of applying the enamel without first painting the tub. You will get a beautiful gloss, but the iron will show through the enamel to the extent of giving a rather bluish appearance and you will be disappointed in the looks of the job. In case an old tub is to be repainted, if the paint is on smoothly it can be merely rubbed down quite thoroughly and the paint and enamel applied as previously stated.



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Q Last longest—look best—are not too costly.
There's no other kind so good—so pleasing.
Our Sketch Book tells all about them.
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Here is a lighting system that not only means good profits for you but it will give the most satisfactory service to your customers.

The best light for residences, schools, churches, factories, etc., especially where city gas or electricity are not available.

This system of lighting is cheaper than any other form of light and gives perfect results. A gas plant complete in itself right in the house. Perfectly safe. Examined and tested by the Underwriters' Laboratories and listed by the Consulting Engineers of the National Board of Fire Underwriters. The gas is in all respects equal to city coal gas, and is ready for use at any time without generating, for illuminating or cooking purposes. The standard for over 40 years. Over 15,000 in successful operation.

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For this elegant, massive selected oak or birch, mahogany finished mantel

"FROM FACTORY TO YOU"

Price includes our "Queen" Coal Grate with best quality enameled tile for facing and hearth. Gas Grate \$2.50 extra. Mantel is 82 inches high, 5 feet wide.

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Furnished with round or square columns, full length or double as shown in cut.

Dealers' price not less than \$40.

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are distinctive in workmanship, style and finish and are made in all styles—Colonial to Mission. CATALOGUE FREE—Will send our new 112 page catalogue free, to carpenters, builders, and those building a home.

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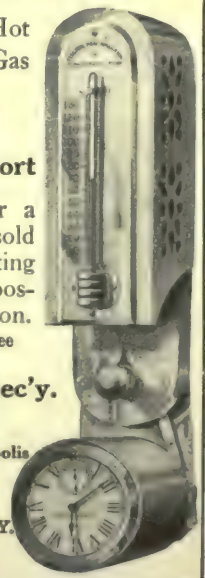
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IN LIVING ROOM

SPLINTERS AND SHAVINGS

Architects' Fees

American Institute Draws Revised Schedule of Minimum Charges.

Professional practice of architects and the schedule of proper minimum charges, as revised by the American Institute of Architects at the Washington convention, are as follows:

The architect's professional services consist of necessary conferences, preparation of preliminary studies, working drawings, specifications, large scale and full size detail drawings, and of the general direction and supervision of the work, for which, except as hereinafter mentioned, the minimum charge, based upon the total cost of the work complete, is 6 per cent.

On residential work, on alterations to existing buildings, on monuments, furniture, decorative and cabinet work and landscape architecture, it is proper to make a higher charge.

Necessary traveling expenses are to be paid by the owner.

If, after a definite scheme has been approved, changes in drawings, specifications or other documents are required by the owner; or if architect be put to extra labor or expense by delinquency or insolvency of a contractor, the architect shall be paid for such additional services and expenses.

Payments to the architect are due as his work progresses in the following order: Upon completion of preliminary studies, one-fifth of the entire fee; upon completion of specifications and general working drawings (exclusive of details), two-fifths additional, the remainder being due from time to time in proportion to the amount of services rendered. Until an actual estimate is received, charges are based upon the proposed cost of the work, and payments are on account of the entire fee.

In case of abandonment or suspension of work, the basis of settlement is to be as follows: For preliminary studies, a fee in accordance with the character and

magnitude of the work; for preliminary studies, specifications and general working drawings (exclusive of details), three-fifths of the fee for complete services.

Drawings and specifications, as instruments of service, are the property of the architect.

In the above schedule the total cost is figured as the added cost of labor, materials, contractors' profits and materials, as though all new, at market prices.

Paint From Cotton Seed

A dispatch from Macon, Ga., says: "A S. Ross, representing the Southern Cotton Oil Company, is in Macon for two days or more, doing missionary work for an industry that is to add more value to the cotton seed. The Savannah plant of the cotton oil producing concern is being given the credit for putting a fine quality of paint on the market that will hardly cost half the amount of similar grades of standard make, and the durability against rust, heat, atmosphere, acids and other wearing elements has been sufficiently tested to assure the mill operators that they have in a by-product a very valuable material. It has heretofore been thrown away. The paints are made from a gummy substance left in the refining of cotton seed oil. It is dark and spongy, and has elasticity. It adheres in the paint compounds so that those who have given it severe tests claim it a very fine material."

"Cottage Front Doors."

Front doors of every conceivable style are shown in this catalogue of The Foster-Munger Co., Chicago. Check rail windows with art glass design give a wide range for selection, covering many situations. Stair details and fitting are shown in designs that will be pleasing to many. Tables of prices accompany all illustrations, thus aiding the homebuilder in his estimate of cost. Ask for Book No. 107.

The Waterproofing of Structures.

This is the title of an interesting booklet published by J. A. & W. Bird & Company, Boston, Mass. It treats of waterproofing in many different situations requiring skill and good materials to be successful. The methods advocated are worthy of investigation. The illustrations are in line and half-tone.

WOULD YOU LIKE

A Bright,
Original,
Attractive

Home

With Your Own Individual Ideas as the Key
Note of the Design

OUR \$5.00 SKETCH OFFER

On receipt of \$5.00 and a rough diagram or description of your own ideas we will make a special study of your requirements and prepare the first and second floor plans accurately laid out to a scale with a picture of the exterior of the house as it would appear when completed, advising you of the additional charge for Complete Working Drawings, Specifications, Etc., which will be as low as is consistent with the labor involved. This offer applies to residences only costing not over \$5,000 and is made simply to demonstrate to you the value of competent services in interpreting and rendering practical your *original ideas* so that the home will be a complete success in every detail.

"There is no art to find the mind's construction in the face."
— Macbeth.

— BUT —

"The dwelling a man builds, reveals his personality, and through its halls and porticos runs the story of his life."

Now if the problem be given proper consideration, it means *time* and *time* is money. We would be speedily overwhelmed with requests if this were a *free* offer, consequently it is not free. No signed contract is asked for. We propose to make our work so pleasing and satisfactory as to demonstrate beyond a question that the *best* is certainly the *cheapest* for you. The fact that *houses* built from our designs *sell* advantageously when built proves they are *practical* and *desirable*. *This is an important matter should you wish to dispose of your property.*

Our latest books of plans with costs, sizes, etc., are:

100	Small Cottages and Bungalows.....	\$.50
98	Estimated Cost to Build \$ 800 to \$1200.....	.50
136	" " " \$1200 to \$1600.....	1.00
186	" " " \$1600 to \$2000.....	1.00
226	" " " \$2000 to \$2500.....	1.00
191	" " " \$2500 to \$3000.....	1.00
207	" " " \$3000 to \$4000.....	1.00
172	" " " \$4000 and upward.....	1.00

THE KEITH CO., Architects

1721 Hennepin Ave.

Minneapolis, Minn.

Have Your House
White-Leaded

When a painter wants to do a good job, he white-leads it. Some painters do not know how to mix white lead and oil. They are not real mechanics. Don't employ them. A real painter with a keg of white lead guaranteed by the Dutch Boy Painter on the label, will work wonders in keeping the house and other buildings fresh and beautiful--and at a much lower cost per year than can be done by counterfeit painters using counterfeit materials.

When you think of Paint, think a little bit farther and think of *white lead paint*. Just paint may be good or bad ---paint made of pure white lead and linseed oil, mixed for the job, is always good.

National Lead Co.

New York Boston Buffalo Chicago

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Splinters and Shavings—Continued

Prices of Material in Gleichen, Alta.

2x 4 12, 14x16" per M.....	\$24.00
2x 6 " "	24.00
2x 8 " "	24.00
2x10 " "	24.00
2x12 " "	25.00
4x4, 4x6, 6x6 and 6x8, 12, 14, 16' per M	26.05
6" No. 1 com. board.....	23.00
8x10" No. 1 com. boards.....	24.00
Cedar boards \$1 per M. less.	
No. 2 com. boards, cedar.....	19.00
No. 2 com. boards, pine and fir.....	20.00
Shiplap 6" No. 1 com.....	24.00
Shiplap 8" and 10" No. 1 com.....	25.00
Edge grain fir flooring.....	50.00
No. 1 flooring	39.00
No. 2 flooring	36.00
Ceiling 5/8, clear fir.....	35.00
Shingles, per M.....	3.75
1/2"x6" cedar siding, No. 1 clear.....	35.00
1/2"x6" cedar siding, No. 2 clear.....	30.00
Lath, No. 1 fir.....	5.50
Lath, No. 1 larch.....	5.00
Lath, No. 2 mixed.....	3.75
Bricklayers wages, per hour.....	.68
Cement, per barrel.....	4.50
Wood fibre, per ton.....	25.00
Lime, per barrel.....	2.00
Hair, per bushel.....	.50
Finishing plaster, per barrel.....	6.50
Lathing (to put on) per yard.....	.06
Plastering for two coats (white finish)	.16
Painting, per square yard (2 coats)....	.20

New British Measure Provides Protection to Hand Weaves.

Through the efforts of the hand-loom linen weavers of the Belfast district, a law for the compulsory marking of hand-loom woven linen goods was enacted by the British Parliament, to go into effect Jan. 1, 1910. It is described by Consul Samuel S. Knabenshue:

The bill has passed the House of Commons, and also its second reading in the House of Lords. There appears no doubt that it will speedily become a law, as no opposition to it has developed. The provisions of this bill are as follows:

Every piece of linen damask produced upon a hand loom must have woven in the selvage the words "Irish woven linen damask."

Every piece of cambric or linen diaper goods must have stamped or printed thereon in legible characters the words "Irish hand woven."

Any person weaving in a hand loom in Ireland any linen goods of the classes above mentioned who fails to carry out the requirements above shall be guilty of an offense under the act.

Any manufacturer, agent, or any other person who causes or procures any per-

son to weave in a hand loom in Ireland any linen goods of the classes above mentioned without the proper marking shall be guilty of an offense under the act.

Any person selling or exposing for sale any goods being, or purporting to be, linen damask goods or cambric, or linen diaper goods, having woven therein or stamped or marked thereon the words "Irish hand woven" or "Irish hand made," or other words representing that the goods were woven in the hand loom in Ireland, shall, unless the goods were in fact so woven, be guilty of an offense under the act.

Any person guilty of an offense under this act shall be liable on conviction for a first offense to a penalty not exceeding £10 (\$50), and for the second or any subsequent offense to a penalty not exceeding £20 (\$100) or to imprisonment for a term not exceeding six months.

There has been no objection made to the bill by the power-loom manufacturers of linen damasks, cambrics, and diapers, although they seem skeptical as to the value of the measure.

Press Bulletin.

Official announcement has just been received from the Cement Products Exhibition Co., 115 Adams Street, Chicago, regarding the New York and Chicago Cement Shows. The Eastern event will be held in the Madison Square Garden, New York City, December 14-20, 1910, and the Chicago Show will be held as usual, in the Coliseum, Chicago. The dates of the latter event will be from February 17-23, 1911, inclusive. All contracts of importance in connection with the Shows, have already been placed and the intervening months will be spent in perfecting the details. The Passenger Associations have been duly petitioned so that attractive railroad rates will prevail during the period covered by both Shows. This enterprise is unanimously endorsed and somewhat more than 80 per cent of the exhibitors at the recent Chicago Show have signified their intention of exhibiting at New York. The interest manifested by Eastern manufacturers, who have not hitherto exhibited, is already apparent, the number of inquiries for space at the New York Show, being such as to hasten completion of the general prospectus of the New York and Chicago Cement Shows, which is at present in preparation. This prospectus will contain full information regarding both events, together with diagrams showing space available at the Madison Square Garden and at the Coliseum, and the Rules and Regulations by which exhibitors will be governed, and application forms.

Brand Whitlock

MAYOR OF TOLEDO, OHIO,

ON

The Task of Being A Mayor



THE WORLD TO-DAY takes pleasure in announcing that it has arranged with Mayor Whitlock for a most important series of articles on municipal affairs, showing the trials and pitfalls of running the modern American city.

These articles will cover such vital topics as:

- The Management and Mismanagement of a City's Finances.*
- The Elimination of Graft.*
- The Strength and Weakness of Civil Service.*
- The Police and the Criminal.*
- The Reformer and the "Practical Politician."*
- The City and the Public Utility Corporation.*

There is no more interesting figure in American politics than Mr. Whitlock. As a man whose interests are pronouncedly those of literature he became the political heir of "Golden Rule" Jones, and has just been elected for the third time mayor of the city of Toledo. He will give the readers of THE WORLD TO-DAY something more than an abstract discussion. The articles in a sense will be autobiographical. Readers of Mr. Whitlock's stories of politics will know also that they will be possessed of all the attractiveness of real literature. There is no man in the country, unless it be ex-President Roosevelt, who to the same extent combines political experience and practical idealism with literary ability.

Mr. Whitlock's first article will appear in the June issue. Every person interested in municipal government and reform should read these articles. This is but one big feature; there are many more.

THREE MONTHS FOR 25 CENTS

The price of THE WORLD TO-DAY is 15 cents a copy and it may be had at all newsdealers, but for the purpose of introducing it to new readers we will send for three months for but 25 cents. THE WORLD TO-DAY is printed in colors and filled with live articles. Read it for three months and you will not be without it. Mail coupon to-day.

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THE WORLD TO-DAY CO., 67 Wabash Avenue, CHICAGO.
 CENTS. Enclosed herewith please find 25 cents, for which
 send THE WORLD TO-DAY for three months, commencing with
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GLIMPSES OF BOOKS

Craftsman Homes.

By Gustav Stickney.

The craftsman idea has spread rapidly to all parts of the country as a national revolt against the ornate creations of years past. The desire for simplicity has created a demand for better things and the contents of this book show the relation of craftsman teachings to home building and home living. Many of the arrangements shown will be somewhat startling to one accustomed to old ideas and require something of a shaking up of housekeeping methods. The builder of today will find much of interest in this book, showing as it does exterior, interior and plan of each house with an entertaining description. The subject is not confined to building only, the contents of the house and the arrangement of the grounds are fully covered. There are many color plates and the whole make up of the book is artistic and in keeping with the subject discussed. The work is complete and should become a standard of authority. The Craftsman, New York, Publisher

The Girl From His Town.

By Marie Van Vorst.

The American heiress and the titled Englishman have so long been associated that it is refreshing to read a book in which the conditions are reversed. Dan Blair is a bright, clean young American with \$50,000,000, from Blairtown, Montana. He is visiting an English lord, a friend of his dead father, and who wishes to keep the boy from youthful mistakes. His wife considers the young American as material for the matrimonial market and introduces a duchess, a beautiful woman who has divorced her husband. They became engaged and Dan is warned by the Englishman of her mercenary motive. An actress who has all London at her feet, proves to be a girl from his own town and they renew acquaintance. She is a good woman at heart and thinks first of Dan's welfare in her attitude toward him. A situation develops that shows him that the duchess is not true and the engagement is broken. The tie of "home" is strong between the actress and the young American and he finds himself in love with her. Ruggels, an elderly American friend,

tries to break it up, but even with the lady's desire to do what is best for Dan's interests, he cannot stop the determination of youth to live its own life.

The story ends with a feeling of satisfaction upon the part of the reader, that the actress was not only an ornament to her profession, but a woman good and true, a fitting mate for this strong, high minded young American.

The Bobbs-Merrill Company, Indianapolis, Ind. Price, \$1.50.

The Danger Trail.

By James Oliver Curwood.

The Canadian Northwest affords material for a story of thrilling interest. Melodramatic without being trashy, it holds the attention of the reader from the very first sentence. A railroad is being built, expert engineers seem unable to cope with a surprising chapter of accidents. A young man of strong personality is sent to relieve the engineer in charge. Attempts are made constantly upon his life, in a most mysterious manner. A beautiful girl with whom he falls in love, seems to be in some way connected with the persons making these attacks. His ultimate solution of the mystery, the complete vindication of the girl and a satisfactory understanding between all parties concerned brings the book to a happy conclusion. The Bobbs-Merrill Co., Indianapolis, Ind. Price, \$1.50.

Ornamental Concrete Without Molds.

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KEITH'S MAGAZINE

ON HOME BUILDING

WITH WHICH IS CONSOLIDATED

The Journal of Modern Construction

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Contents for August

	Page
EDITORIAL - - - - -	74
A WELL-DESIGNED COUNTRY HOME OF TEN ROOMS - - - - -	77
THE FLEETING SUMMER (Verse) - - - - -	80
"EL FUREIDES" - - - - -	81
HOW WE SOLVED SOME HOME-BUILDING PROBLEMS - - - - -	83
SOME DETAILS OF REAL ESTATE TRANSFERS - - - - -	85
THE SITZ BATH AND ITS RELATION TO HEALTH - - - - -	87
A DUTCH COLONIAL HOME - - - - -	89
PRIZE DESIGNS IN CONCRETE - - - - -	92
DESIGNS FOR THE HOME-BUILDER - - - - -	96
DEPARTMENTS	
DECORATION AND FURNISHING - - - - -	108
ANSWERS TO QUESTIONS ON INTERIOR DECORATION - - - - -	114
HOUSEHOLD ECONOMICS - - - - -	118
TABLE CHAT - - - - -	122
CEMENT - - - - -	126
PAINTING AND FINISHING - - - - -	130
ANSWERS TO QUESTIONS ON CONSTRUCTION - - - - -	134
HEATING AND PLUMBING - - - - -	138
SPLINTERS AND SHAVINGS - - - - -	142
GLIMPSES OF BOOKS - - - - -	144

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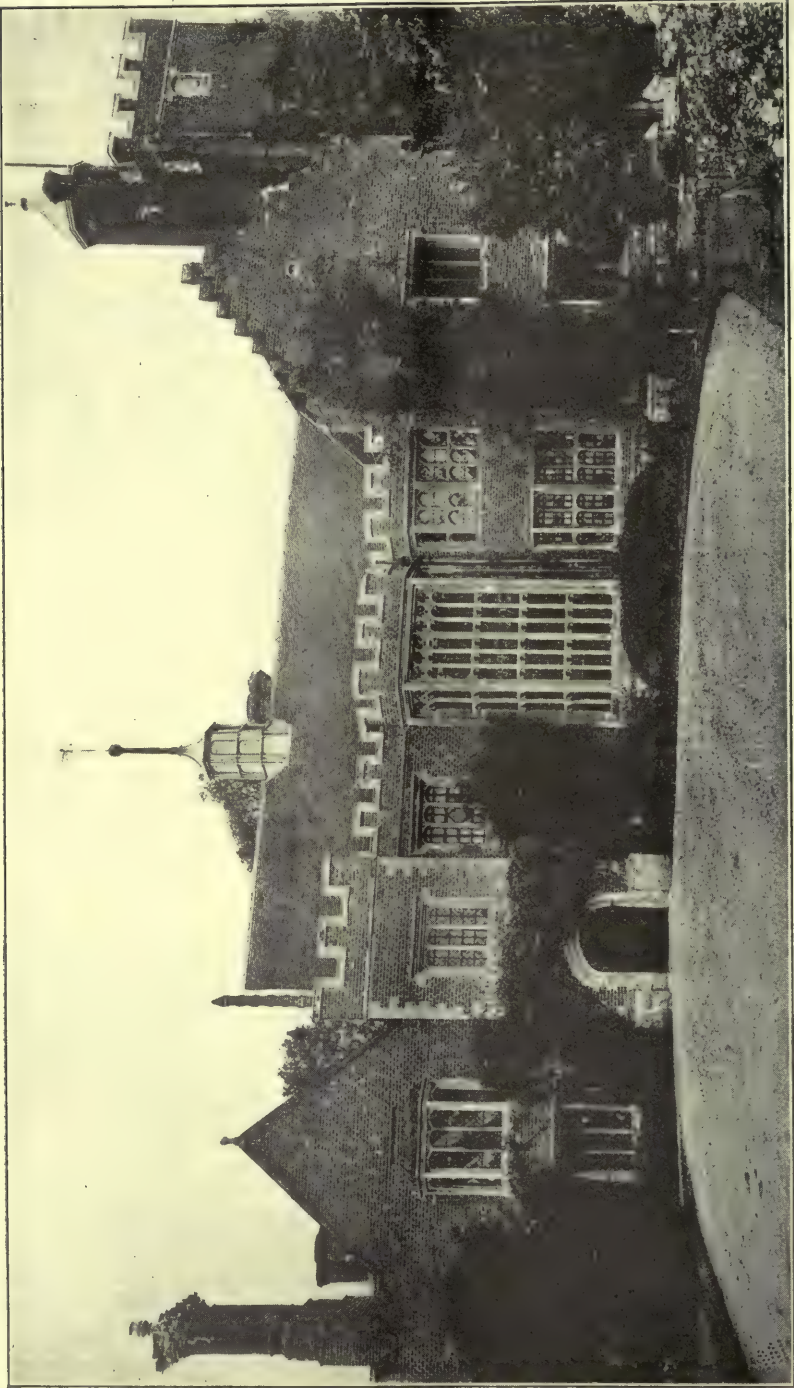
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"HORMAN HALL," A BEAUTIFUL EXAMPLE OF THE ENGLISH COUNTRY HOME

KEITH'S MAGAZINE

Vol. XXIV

AUGUST, 1910

No. 2

A Well-Designed Country Home of Ten Rooms

By Charles Alma Byers



EXTERIOR SHOWING PORCHES AND CHIMNEYS OF COBBLESTONES

THE accompanying photographs illustrate a simply and well-designed suburban home of Los Angeles, California. It contains ten rooms, besides bath, pantry, storeroom and numerous closets, and is two stories in height. It is constructed of Oregon pine, with cobblestone foundation, porch pillars and chimneys. The interior walls of the lower half of the house are covered with ordinary dressed siding,

while those of the upper half are shingled. A broad veranda extends across the entire front and half way along one side, a portion of the roof of which is converted into a corner balcony, and in the rear there is a spacious screened porch with stationary wash tubs and other convenient features. There are numerous windows of various sizes, which, with the broken roof lines, help to keep the house, in general appearance, from being too



THE LIVING ROOM FIREPLACE OF CREAM COLONIAL BRICK

plain and common. The color scheme consists of two rich shades of brown for the woodwork, with the cobblestone work naturally grey—a combination that in this instance has proven very effective.

The rooms on the lower floor consist of living-room, drawing-room, "den," dining-room and kitchen, and on the second floor a sewing room and four bedrooms. The front door leads directly into the living-room, and it is from this room that the stairway to the second floor leads. The room is simply finished and furnished, the aim having been to make it tasty and cheerful. The woodwork, which is of Oregon pine, is smoothly finished and only waxed, leaving the natural grain of the wood plainly visible, while the plastered portions of the walls are

tinted a rich chocolate color, except the ceiling, which is cream. The room contains a large fireplace of cream-colored brick, built-in book cases and convenient or comfort-giving features.

The drawing-room is separated from the living-room only by portiers. It is comparatively small, and is more richly finished and furnished. The woodwork, which is also of Oregon pine, is finished to resemble golden oak, and the furniture consists of mahogany. The walls are papered with a paper of rich, dull-colored pattern.

The "den" is finished very similar to the living-room. It contains a large fireplace with a mantel of olive-green tile and square-sawed Oregon pine, and a book case, built-in, that extends across



THE DINING ROOM, WITH BUFFET, FIREPLACE AND LIGHTING FIXTURES



THE DEN, SHOWING FIREPLACE AND BUILT-IN BOOKCASE

one entire side of the room. The room is paneled to a height that corresponds with the top of the book case and the fireplace mantel. Above the paneling is tinted a rich chocolate and the ceiling is done in cream, as in the living-room.

The dining-room is likewise finished and decorated, except that the ceiling is beamed. The room contains a fireplace built of cobblestones, and a spacious buffet. The latter is a veritable gem, and the accompanying photograph which illustrates it can well be studied by the prospective builder.

A feature of the second-floor arrangement of this house is a hallway that connects the sewing-room and four bedrooms with the stairway landing and the bathroom. This hallway also leads to the balcony, thereby making it accessible from all parts of the second floor. The sewing-room is practically a women's

"den," it being provided with built-in book cases, cabinets and a writing desk.

The house is lighted with electricity, and the lighting fixtures throughout are of unusually handsome design. The several fireplaces give the home a cheerful appearance, and the general simplicity shown in the workmanship, the decorations and the furniture make it truly inviting and "homey."

The cost of building this house was only a little in excess of \$5,000. This price is based upon framing lumber at \$22 per thousand feet, finishing lumber at \$35 per thousand feet, cement at \$2.85 per barrel, cobblestones at \$3 per load, including hauling, and day labor at \$4 per day. It is substantially and warmly built throughout, and should be duplicated in any locality at a price reasonably close to that given above.

The Fleeting Summer

*Let us make the most of summer
As we live each golden day,
For all nature now is calling
In a sweet and tuneful lay.*

*Woodland path and lake and forest
Offer each its pleasures rare,
Where the world may be forgotten
With its weary strife and care.*

*Vain regrets in icy moments,
Will not cheer us on our way;
So while summer's with us, Dearie,
Let's enjoy it while we may.*

—Herbert Edward Walker.



THE STATELY PALM DRIVE LEADING UP TO THE HOUSE

“El Fureides”

AN ADAPTATION OF SPANISH ARCHITECTURE
TO AN IDEAL AMERICAN HOME IN THE WEST

By Edith Everett

NEAR Santa Barbara is located one of the most novel and beautiful of California homes. This place is called the “El Fureides,” the grounds comprise twenty-seven acres, and it is the property of Mr. Gillespie.

The house and the improvements cost about one hundred thousand dollars. It is copied partly after Spanish houses, and yet is an original dwelling. The grounds are particularly beautiful. Palms, red woods, pepper trees and acaceas form a dense shade. For, as the picture shows, the house is built on a rise of ground. In front are the thick shrubbery and giant palms.

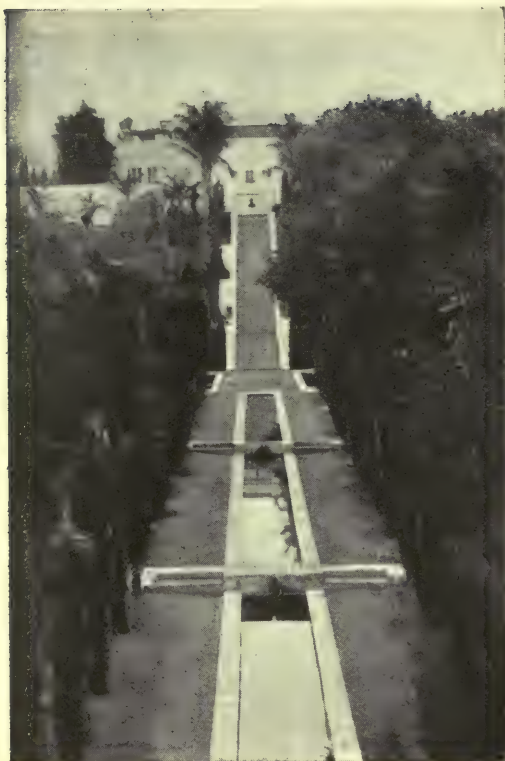
One of the most ornamental features of this place is the long flight of steps, which lead up to the house. On the level, at the foot of the steps, as the picture

shows, is the pretty little canal. At each side among the trees are picturesque walks. All about the grounds are scattered odd seats brought from Europe—a decoration which reveals the fact that Europeans have paid more attention to landscape effects than Americans.

Such grounds, rich in tropical beauty, bright with California flowers, can be equalled nowhere in the United States, unless it be in Florida. In fact, these grounds are as beautiful as those which surround the Riviera's famous villas.

A broad, gravelled way, flanked on each side by mighty palms, leads to the house. It is a long drive and winds about until it reaches the eminence on which the house stands.

The picture, which shows the house in the distance, gives more idea of the size.



THE GARDEN APPROACH, SHOWING POOLS AND STEPS LEADING TO THE HOUSE

The view taken at close range reveals some of the beauties of this novel residence.

A concrete structure of the best type, "El Fureides" looks at a distance white and glittering like marble. Built after the Mission style—so popular in Southern California. The house has a red tile roof, it is one-story and is built about a courtyard, where fountains play.

In front of the house is a moat, much after the fashion of ancient castles. Here is a fountain, and cement walks with borders of shrubs and flowers add beauty to the picturesque scene. Even the picture shows the reflection of the shrubbery in the clear water.

The architecture is all in keeping, from the broad steps which lead to the entrance, to the long, narrow windows. From the plain Ionic pillars of the front, to the narrow porch with its decorative railing and large pillars.

"El Fureides" is one of Santa Barbara's prides. Its simple elegance is appropriate to the charming city by the sea.



THE FACADE FROM THE GARDEN

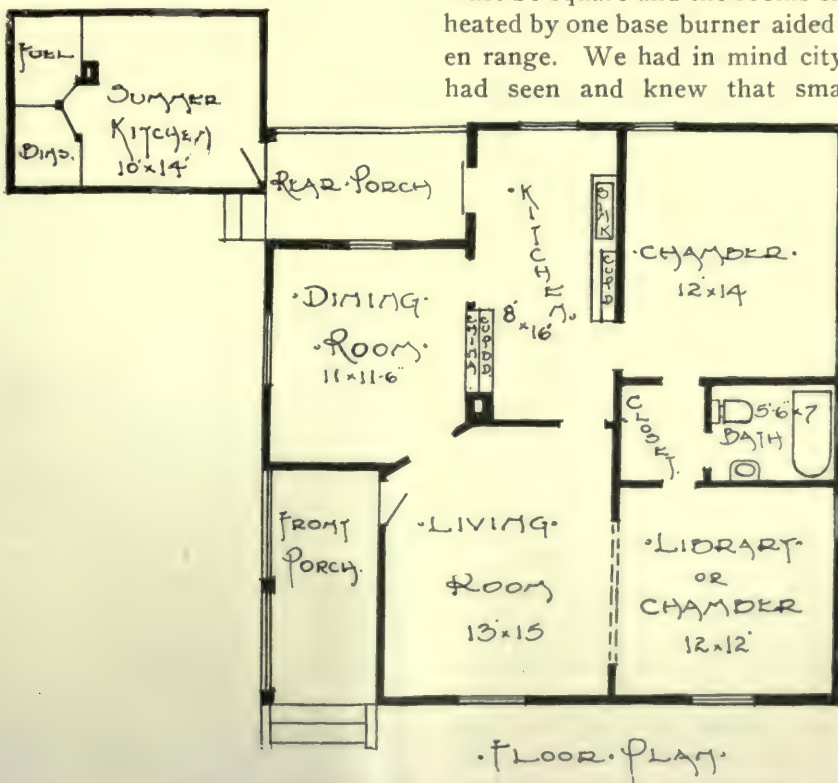
How We Solved Some Home-Building Problems in a Country Town

WE lived in an Indiana village of less than 1,000 with no city water or light supply, where a bathroom was a rarity and where people of small means build from carpenters' plans which never rise beyond the village environment. That is they are like something some one has already built. The prevailing idea is to get as large a building as the means will permit, resulting in a spread of eels and gables which mean cold, abandoned rooms in winter and much discomfort. This was our own experience, and it led to revolt. We were determined to have something different, something that would come within our means and yet be comfortable and artistic. We early decided on cement



THE HOUSE FROM SIDE OF PORCH

block, which would cost more at first, but would be decided economy, saving fuel, adding comfort and forever solving the painting problem. The more they weather the better they look. The house must be square and the rooms small to be heated by one base burner aided by kitchen range. We had in mind city flats we had seen and knew that small rooms





THE HOUSE FROM THE OPPOSITE SIDE

well arranged and simply furnished would give us more real room and comfort than the prevailing custom of making all rooms large and then filling them with useless and endless furniture, which make housekeeping a burden. After much planning we presented our plans to a competent architect who gave us the harmony of proportions in everything which we well knew no carpenter could produce. A local plumber furnished all material, including pumps and installing of all plumbing for \$94.00. A tank in the attic and a vault in the rear of the lot took the place of the city arrangement. Pumps were placed on each side of the kitchen sink for well and cistern, which were in the yard. A few minutes pumping each day was sufficient to keep up the supply. Instead of the usual ugly white walls our neighbors had in their new houses, we tinted ours before the casing was done. One does not need to be artistic these days, simply have the desire. Nearly all manufacturers of decorating material, both interior or exterior, furnish complete decorating schemes with their advertising matter. The trim was yellow pine, which we stained a dark brown. The finish floor was also yellow pine, but rift sawed and looked beautiful under the brown stain. The casing was all milled straight and plain, giving a mission effect. The library is part of the living-room by day and convertible into a sleeping room by night. It is furnished simply in mission style. The rear chamber is large enough to admit a child's bed and is also used for sewing-room. The kitchen is nar-

row, but ample floor space is provided in its length of 16 feet. A cupboard and a cabinet built in precludes a pantry, and with range and gasoline stove, make it complete. In the dining-room a mission table and chairs make it complete. The plate rail made for us by the carpenter, and the china closet with its narrow doors and diamond leaded glass, furnish ample display for china and consistent decoration for such a small room. A shelf is allowed for flowers in the sunny south window. In the living-room are the base burner, piano and miscellaneous chairs and music cabinet. The base burner always looks cozy and inviting in winter. The rear porch can be screened for a summer dining-room and the cooking done in the summer house where we also have our coal stored handy. We used three tons of hard coal and two of soft to keep the entire house comfortable all winter. Shingles are stained dark green. A saving could have been made by omitting three of the dormer windows without losing anything for appearance, only one window being necessary to light the attic. The summer house is frame with drop siding reversed and stained brown on the rough side. The trim is white. We plastered the interior of the house directly on the blocks. Rain seldom strikes the outside walls because of the broad eaves. The house is perfectly dry. The total cost was \$1,746.50.



DETAIL OF FRONT PORCH

Some Details of Real Estate Transfers

POINTS FOR THE CONSIDERATION OF THE PURCHASER TO SAFEGUARD HIS INTERESTS

THE details attendant to the transfer of real estate is a very simple and every day sort of a transaction to the man of experience. But to the man who has never purchased a lot, it may appear simpler before than after it is finally closed, and in the interim many pitfalls may have developed that have been difficult to avoid. It is well to be fairly well satisfied that a given lot in a certain location will be satisfactory before setting foot upon it, if there are houses adjacent. Some people are ever alert to see what they can see and the presence of anyone walking over a lot with a critical eye is enough to set them at work. The buyer often finds that while he is out looking at the lot, Mrs. Neighborly has telephoned Mrs. Bridge Whist that the lot is being considered and Mr. B. W. has "jumped in" and closed the deal. He had been keeping the lot in view for a long time as a residence site for his daughter, who is to be married. He feels quite attached to that lot, but for a hundred, or it may be only fifty dollars advance over the sale price, he is willing to sacrifice his feelings. The lot looks even more attractive now than it did before and oftentimes the terms are accepted. After a like experience a purchaser once went with his wife to the rear of the next lot under consideration, climbed up a steep bank and looked carefully about to avoid being seen by the neighbors. He bought the lot without having walked over it, a somewhat unusual proceeding, but necessary under the circumstances. This is an extreme case, but might happen anywhere if the

lots were desirable. Having decided upon a certain lot it is usual to deposit a sum of money with the owner, or his agent, called earnest money, as a promise of full payment and to bind the seller to the terms of the agreement. This is best done through a third party, preferably the attorney whom the purchaser employs to examine the title of the property. The owner furnishes the attorney with an "abstract of title," a document showing the original grant of the tract in which the lot lies from the government and all the subsequent items of transfer and incumbrance, down to the most recent transaction. A great many things go to make up an absolutely clear title, indeed it is doubtful if such a thing really exists, the opinion of one examiner differing from another. A defect in the title is often termed a cloud and may be serious or unimportant, but still a cloud. The improper signing of a name at any point of transfer, the omission of certain legal phases and any number of things beyond the understanding of the ordinary purchaser may effect the title. Some things are no longer in force if the party has been in possession for twenty years. A judgment rendered against one may be placed upon his property and confusion sometimes arises because of a similarity in names. The attorney looks into all this with the aid of the abstract and the records of the community before making his report. If it is unfavorable the purchaser may afford the owner an opportunity to "clear the title," that is, take the necessary steps to make it satisfactory. Upon adjustment, the terms of the agree-

ment are fulfilled, the purchaser paying the whole amount and receiving a "warranty deed," or a portion of the amount and receiving a mortgage deed. Each of these documents will contain a "description" of the property, giving its dimensions, direction and frontage with such other matters as may be agreed upon. The purchaser should see that the description agrees with the facts, that the stakes set at corners and at any change in the direction of the line, are in position and that the distance stated between same is correct.

No compromise should be made in this matter for future improvements will be made in accordance with the actual area of the lot and if any portion of a building is constructed outside of these limits, the owner of the property trespassed upon will have cause for action. A survey made after the lot is paid for will probably not help the purchaser, if he has less ground than he appeared to have, but it will show the limits within which he may safely make improvements.

If married the wives of the contracting parties must affix their signature to the papers in the transaction. It is the duty of the examining attorney to safeguard his client's interests in all these different matters and for this reason the selection of the attorney is most important.

The examiner of real estate titles should not only be capable, but he should have an enviable reputation as an expert in this phase of legal practice, a man whose name signed to an "opinion" will have weight with any who may read it. Litigation is often prevented by the fact that the position taken is backed by eminent authority.

The abstract becomes the property of the purchaser and the final payment should not be made till it is placed in his possession.

Any transaction affecting the title of

the lot must be recorded upon the abstract. This is best done by an attorney or an abstract company. It is necessary to have all taxes paid up to the first of the year preceding that of purchase before the property can be legally transferred. The deed should be recorded at the court house by the register of deeds. Often a drawing of the lot is filed at the same time and should be of a convenient size.

A mortgage taken upon a lot should be recorded at once, because a second mortgage, if placed upon the lot, will become a first mortgage if it is recorded first. The record should be made in either case.

It may happen that a special assessment is made for some purpose and the work is not performed. Application should be made for a rebate, even though the tax was paid prior to the present owners coming into possession. If the matter is known at the time of purchase the agent can often be induced to take the necessary steps for the recovery of the money.

Many localities have companies whose business it is to insure real estate titles. For a certain amount per thousand they will protect the owner against loss and defend a suit for defective title. This is a very good plan if properly inspected by the state authorities, but in event of failure, the fact that they accepted the risk on a certain lot will not render further examination unnecessary. Again, some states assume the responsibility after the owner has complied with certain requirements.

Too much care cannot be taken in transferring a piece of property and it is poor economy to do without competent advice. It may appear to be a simple matter to fill in certain portions of a legal blank. It is if one knows how, but if not, a little matter omitted may vitiate the whole title.

The Sitz Bath and Its Relation to Health

A BRIEF OUTLINE OF ITS MERITS IN PROMOTING THE HEALTH OF THE FAMILY



A MODERN BATHROOM SHOWING SITZ BATH

CONSIDERING the benefits to be derived from the use of the sitz bath it is strange that so few are installed in houses that are said to be strictly modern. The fact that such a bath is concentrated in its effect should recommend it to the home-builder. Modern life requires so much of the individual, putting a strain upon the whole nervous system, interfering with digestion and otherwise causing ill-health. The sitz bath is not taken as a means of cleanliness, but as a relief from bodily ills.

To the tired business man or woman

who has had a trying day and whose hasty lunch has resulted in indigestion, a warm sitz bath would cause an increased circulation to the locality, the tired nerves would relax and the condition would soon right itself.

A complete bath might be refreshing but the fact that it does not localize the increased circulation makes the results less positive. A great many of our bodily ills would disappear if even this simple remedy was available and it is to be hoped that this admirable fixture will become a feature of every modern bathroom.

Two Interesting Interiors



A BEAUTIFUL COLONIAL RECEPTION HALL



A LIVING ROOM WITH COLONIAL DETAIL AND FURNISHINGS

A Dutch Colonial House

A SIMPLE TREATMENT OF A PICTURESQUE STYLE



KEITH & WHITEHOUSE, Architects

AN EXAMPLE OF THE DUTCH COLONIAL RESIDENCE AT SPOKANE, WASH.

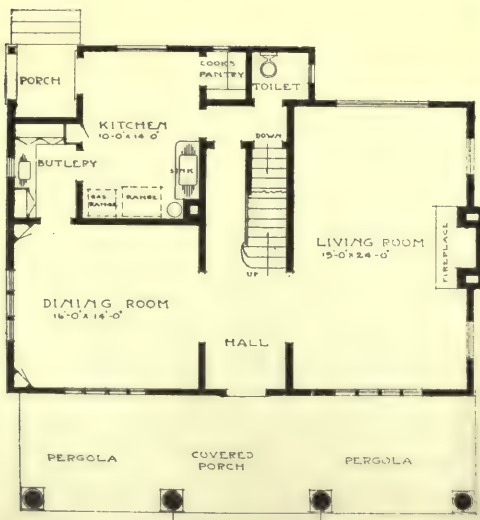
ONE would almost think that this scene was back in "York" state bordering on the Hudson, so like is this house to those of that locality. The quaint outlines were peculiar to the dwellings of the Dutch pioneer and his immediate descendants. The gambrel roof, the little shed roof dormers and shingled sides are all in perfect harmony with the style.

Salem, Mass., and seaport towns of New England also possess many examples along similar lines, creating "atmosphere" in their artistic and picturesque environment. Contrary to expectation this house is built in the far western city

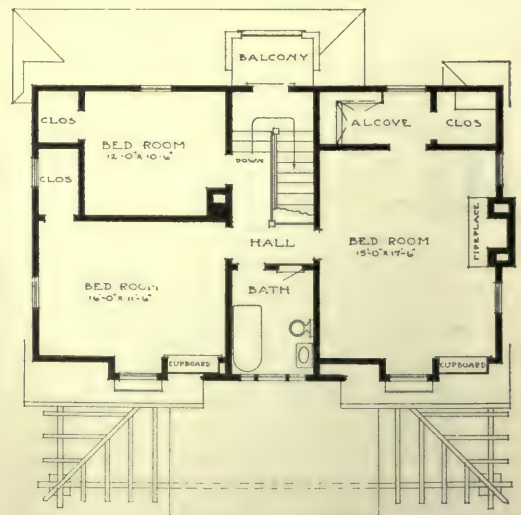
of Spokane. The success of this transplanting of the style is readily apparent. A feature that will grow more beautiful each year is the pergola effect of the porch. The roof occupies the space between the central columns only, to protect the entrance, and when vines have grown upon the lattices and beams the effect will be charming. The chimney of brick with stone trimmings is a sturdy and attractive feature of the gable end. The white painted trim gives a brightness to the whole design in combination with the stained shingles on walls and roof. The plan is colonial with its central staircase hall. On the right is the



THE DINING ROOM, FINISHED IN WHITE WITH MAHOGANY FURNITURE



FIRST FLOOR PLAN



SECOND FLOOR PLAN

spacious living-room, splendidly lighted and containing a brick fireplace with a wood shelf of colonial detail. The furnishings are in good harmony with the house and its period. On the left is the dining-room with its built-in china cupboards and trim in ivory white and mahogany colonial furniture. The butlery is located between the dining-room and kitchen and is fitted up with cupboards, drawers and an ample serving counter. The kitchen is provided with gas and coal range, sinks, cook's pantry and a pot closet.

A small rear hall gives access to a small toilet room, the basement, kitchen and front hall. There is a small service porch from the kitchen to back yard.

On the second floor are three bedrooms and a bathroom.

The principal chamber contains a fireplace and an alcove dressing-room containing wardrobes adjacent to a large clothes closet. At the rear from the stair landing is a bedding balcony. The walls of the second story are tinted in colors. The materials used in the construction are substantial but economical. The floors are of fir and the finishing woods are mainly fir painted ivory color. The stair rail and treads are of mahogany giving the interior a very rich and luxurious effect. The windows of the front are largely of the casement variety. The body of the house is 40 feet wide and varies in depth from 25 feet to 29 feet 6 inches. The cost complete in Spokane was about \$5,000. The house was designed by Messrs. Keith & Whitehouse, architects, and is the residence of Mrs. M. J. Wiard.



THE LIVING ROOM WITH ITS COLONIAL DETAIL AND FURNISHINGS

Prize Designs in Concrete

SOME ILLUSTRATIONS SHOWING PRIZE WINNING DESIGNS IN CONTEST HELD BY THE PITTSBURG ARCHITECTURAL CLUB



OUR readers will be interested in these prize designs of concrete house plans. The competition was held by the Pittsburg Architectural club and prizes amounting to \$500 were contributed by the Universal Portland Cement Co. The problem called for a suburban concrete residence to accommodate a family of three adults, two children and two servants, with a garage adjoining. The total of cubical contents was limited to 50,000 feet. No restrictions were placed upon the style of architecture employed or the size, shape, or location of the lot. The grounds were to be treated as a setting and part of the whole composition but any pergolas, seats, pools, etc., were allowed without being considered as a part of the cubical contents.

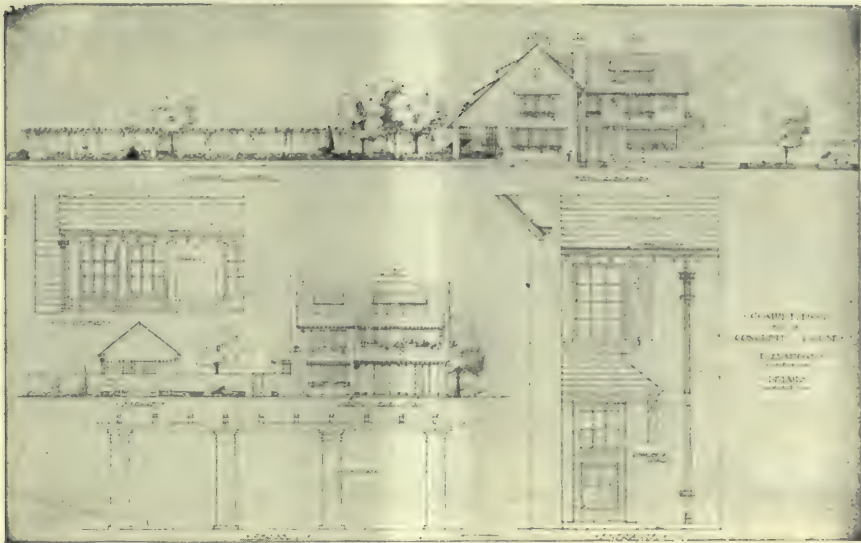
Artistic quality with reference to the materials used, excellence of plan and practicability of constructive details, were the points upon which the jury based its awards.

The designs shown are of interest as indicating the progress and possibilities of concrete for home building purposes. It will be noted that in designing concrete structures more individuality of idea and less following of precedent is shown. Other materials ordinarily used have presented no new problems of construction and as a result designers have drifted from one historic style to another much after the manner of fashion. With concrete the unit is not necessarily of fixed dimensions and may be modeled at the will of the designer upon the job without special difficulty. This puts it



FIRST PRIZE DESIGN

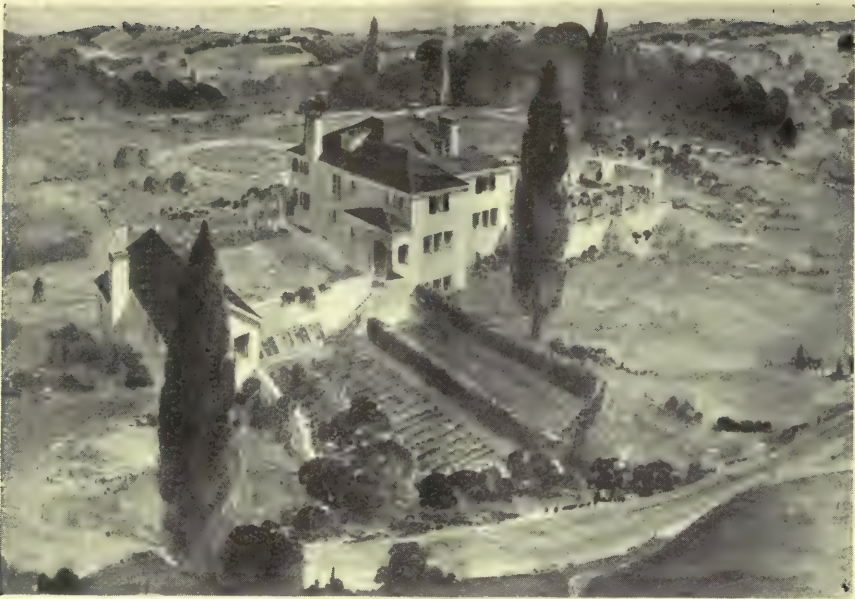
Design by George R. Klinkhardt, Brooklyn, N. Y., Awarded First Prize, \$250



ELEVATIONS AND DETAIL—FIRST PRIZE DESIGN



FLOOR PLANS—FIRST PRIZE DESIGN

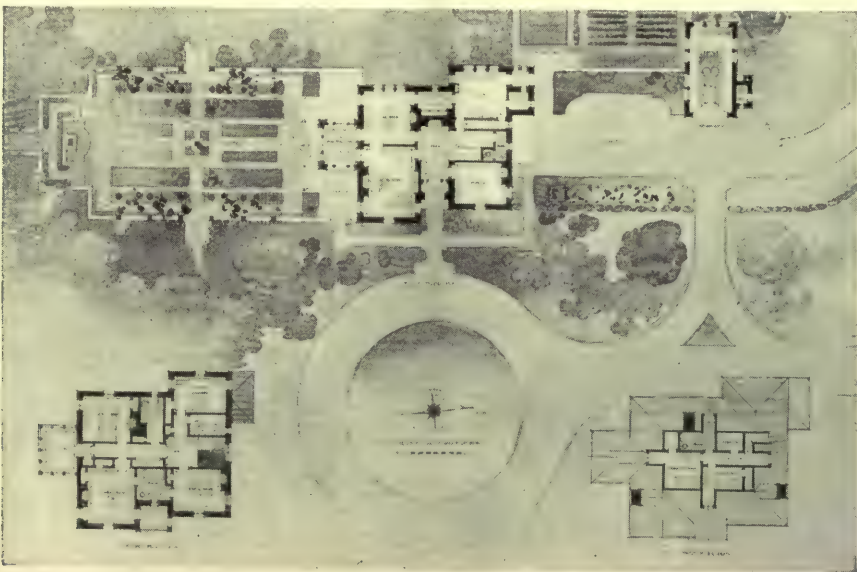


SECOND PRIZE DESIGN

Design by Andrew H. Hepburn, Boston, Mass., Awarded Second Prize, \$100

upon a broader basis. It is not necessary to order everything from a catalogue of some manufacturer or have it made specially. There need be no delay, no long wait for delivery. Many of the simple forms of ornamentation

necessary for a concrete house can be cast from inexpensive molds, made by the contractor. The very fact that they must be simple, eliminates much of the old idea of design, thus creating new designs suitable for work in concrete. The



FLOOR PLANS AND GROUNDS—SECOND PRIZE DESIGN

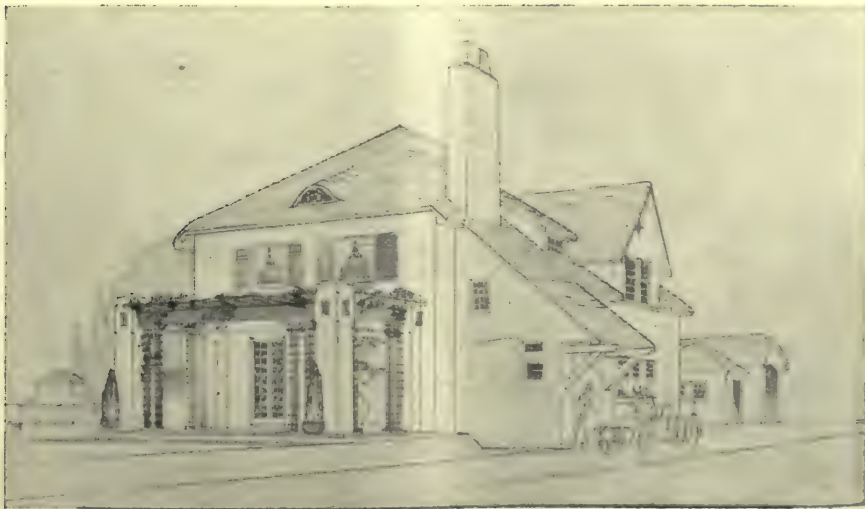


FOURTH PRIZE DESIGN

Design by Edwin F. Campbell, Pittsburg, Pa., Awarded
Fourth Prize, \$50

results obtained by this competition and the encouragement given designers should be of great service in furthering the concrete idea as a material for home building.

The next few years will show a marked increase in the number of homes built of concrete in various phases of its construction. Of these the hollow tile block seems to have the greatest future, because it requires the minimum amount of aggregate to the maximum amount of warmth and efficiency and can be given a finish that is as varied as it is attractive. Lighter than the ordinary cement block it has many of its advantages without its disadvantages and makes no attempt to represent a material other than it is. Satisfactory as good expanded metal construction has been it is not fire-proof and tile construction may reasonably be expected to supercede it.



FIRST MENTION DESIGN

Design by John Ingram, Boston, Mass., which recieved First Honorable Mention

Designs for the Home-Builder

AS the summer advances, the houses started in the previous months are nearing completion. The skeleton frame which at the beginning meant so little, has been clothed and the perfect structure now stands forth as the perfected conception of the designer's mind. Those who were wise enough to employ an architect are now reaping the benefit of his advice in the possession of artistic "nifty" little homes, that will be a source of pride as a habitation, or find a ready sale if occasion demands it. This last is an important point for the consideration of every home builder. A house built primarily for a home may be a valuable asset or not, as its appearance and plan may or may not appeal to the "other fellow." So many reasons arise for the disposal of a home that it cannot look too well, nor be too well arranged.

The houses built locally are largely of the better order. It seems to be now understood that a small house may be artistic and beautiful without a large outlay of money. With the planting of grass and shrubbery the house is brought in closer relation to its site and becomes a complete whole. This is exemplified in the new work now rapidly assuming a homelike appearance.

The temporary mid-summer quietness is now upon the building trades, affording an excellent opportunity for study of new plans. The architect can give you more of his personal attention just now than at any time previous to the coming fall activity. It should be taken advantage of if the home builder would be in time to complete his house for winter occupancy.

Design "B 166."

In this design all foundation and exterior walls and porch piers are to be of monolithic concrete construction cast in the usual manner with wood forms. Exterior walls above grade to be finished in the following manner: The forms are to be removed at the end of twenty-four hours after casting, and the outside then scrubbed with a soft wire brush, washing with a hose at the same time. This will remove the cement and sand from surface and leave the stone exposed with the effect of rough casting, producing a uniform color and preventing the appearance of hair cracks by the removal of the excess of neat cement. Reinforcing rods over all openings. Exterior walls furred with tile to receive two coats of plaster. Partitions to be hollow concrete blocks 4 inches thick, plastered 2 coats. Basement floor, concrete. First, second and attic floors of reinforced concrete I beams, with hard pine floor laid on top, and wire lath and plaster ceiling. Porch floors are of reinforced concrete, the cement to have colored pigments added, and to be laid in pattern. The porch railings are of metal. Finished floors, hard pine throughout. All other interior finish to be hard pine for staining. Roof to be reinforced concrete purlins and rafters. The main body of the roof to be of metal covered with two inches of concrete; this to receive a coat of waterproof paint and finished with green roofing tile. The cornice to have colored tile inlays as shown on drawings. The chimneys to be of concrete with tile flue linings, the flue lining to project as shown. Fireplaces will be of concrete with tile inlays of cast cement ornament. The designers estimate the cost at \$8,000.

Design "B 167."

The square house is always the roomy house and the economical house to build. This house of seven rooms is only 26 feet by 29 feet 6 inches on the ground, yet it is most admirably planned. The living-room extends entirely across the front, with dining-room and kitchen to the rear. The fireplace gives a cheerful aspect to the whole interior and the stairway with its open rail is a pleasing feature. The first story finish and floors is of birch. On the

Cottage Designs for the Home-Builder—Continued

second floor not an inch of space is wasted and four good chambers, a bathroom and linen closet are obtained. The finish is white enamel with birch floors. The house is warmed with hot water heat and is furnished with a laundry. The basement is 7 feet 6 inches high, the first story 9 feet and the second 8 feet 6 inches. The siding of the first story is painted brown and the second story is of stucco on metal lath. The trimmings are in white and the roof is stained green. The architect estimates the cost at \$4,000.

Design "B 168"

This cottage has all the advantages of the bungalow in its exterior treatment with the added advantage of full square rooms in the second story. The roof slopes toward the front and rear, with broad gable on each side, finished in half timber and cement and has broad gable dormers with ample windows lighting the second story rooms from front to rear. The broad ample piazza across the front, covered by the main roof, extends around on the side, affording large floor surface and is designed to be screened in. The side portion might be enclosed with glass during the winter, making a beautiful sun room. It is estimated that this house can be built, exclusive of heating and plumbing, for \$2,800.

The large living room occupies the front of the house and is entered directly from the porch; in cold climates a vestibule would be required. The house is finished throughout in pine, stained and varnished, the floors in hard pine or fir.

A red roof with light cream tints for the trimmings and a slightly darker shade for the body will make a very handsome combination and colored effect for the house. The size of the house is 28 feet in width by 38 feet in depth, including the piazza. The shape of the house adapts itself well to a city lot but looks equally well in the country. There are three large bedrooms on the second floor and one small one.

Design "B 169."

There is a quiet dignity to this design which is readily apparent in the illustration. The red brick of the first story and the gray stucco and brown stained woodwork of the second, form a pleasing combination. The reception hall is centrally located with the living-room at the left and the dining-room to the right. The kitchen and pantry are to the rear of the dining-room and the library is at the rear of the reception hall.

To the right of the living-room fireplace is a wide opening to the solarium from which the view is especially fine in this location. There is a built-in sideboard, an abundance of kitchen and pantry fixtures, cupboards, etc., and a refrigerator in the rear hall. There are ceiling beams in the living-room and dining-rooms. The principal first floor rooms are fin-

ished in oak with oak floors. On the second floor are six chambers, bath and dressing-room, closets, wardrobes, bathroom and front and rear halls containing the stairways, with a bedding balcony at the rear.

The attic is very large and could be divided to suit the individual tastes of the owner as to ballroom, billiard-room, etc. The second story finish is of birch with birch floors. The basement is provided with laundry, vegetable cellar, hot water heating plant, fuel bins and an outside stairway. The frontage is 49 feet and the depth 38. The house cost to build as described by the architect \$16,000. The ideas embodied in this could be adapted to a much smaller and less costly house.

Design "B 170."

Among the desirable features provided in this plan is the spacious front porch, which extends across the front of the house affording much shade and a delightful place for the swinging of hammocks in summer.

Entering the reception hall one is impressed by the exceptionally pretty view obtained of both sitting-room and library and the glimpse of the dining-room, while before him is the open stair ascending to the second floor, which is of a simple, though very tasty design, having a paneled newel extending to the ceiling. Back of the hall seat is paneled work to the height of five feet. Above this, to the ceiling, is turned work.

In the basement are provided the laundry, coal bins, ash pit, outside cellarway, hot air furnace.

White oak finish for dining-room, library, sitting-room and reception hall and hardwood floors throughout the first story. The balance of the finish is intended to be of pine or cypress, painted.

Width, 33 feet; depth, 28 feet; height of basement, 7 feet; first story, 9 feet 5 inches; second story, 8 feet 3 inches. Estimated cost, \$3,500.

Design "B 171."

This home in the English style is built in the best part of the many beautiful residence districts of Minneapolis. Of a somewhat severe type, yet it is homelike. The first story is of brick and the second of frame with stucco finish. The front walk winds in at the side of the entrance leading to the front door, which is of generous size, with sidelights of diamond panes.

The reception hall opens into the living-room through a wide opening. Directly opposite is the living-room fireplace, on one side of which is a built-in bookcase and on the other the door to the sun parlor. To the rear is the dining-room and the kitchen with the pantry between. There is a built-in buffet and wide ledge window in the dining-room. The pantry and kitchen are carefully fitted with modern conveniences, and the recessed icebox

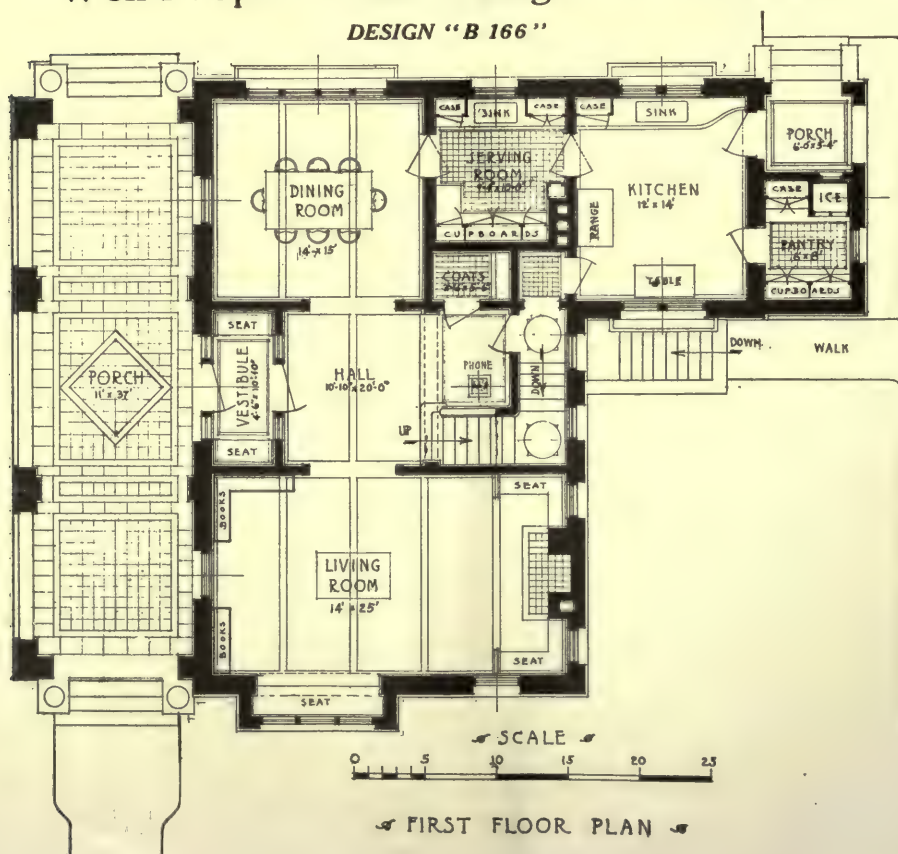


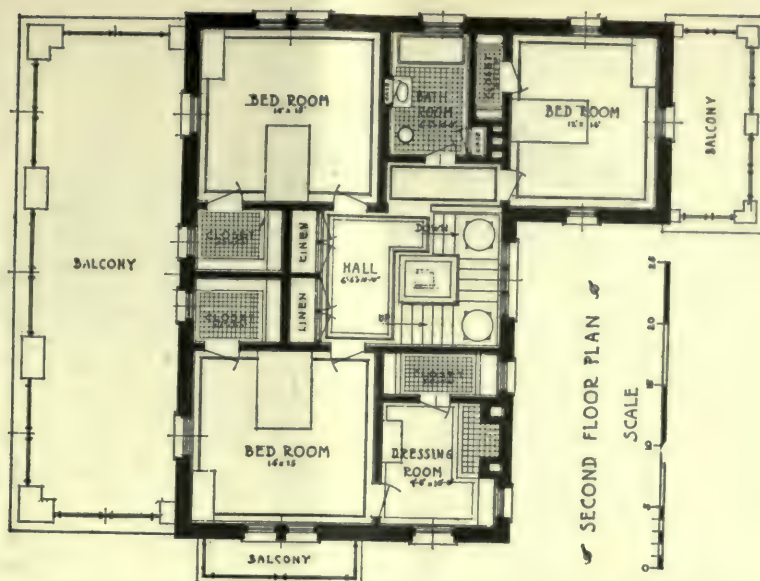
Courtesy Universal Portland Cement Co.

RAYMOND M. HOBBS } Designers
ROBERT LAYER }

Well-Proportioned Design of Concrete

DESIGN "B 166"





Cottage Designs for the Home-BUILDER—Continued

is iced from the rear porch. The storm is of the combination order with the cellar stair beneath. The vestibule has a tile floor and with the reception hall and living-room is finished in birch, these rooms also having floors of birch. The dining-room is finished in white oak, the sun parlor in yellow pine and the kitchen and pantry in fir with floors covered with linoleum. On the second floor are four chambers, each with a closet, a bathroom, a balcony and a sleeping porch. Chambers finished in white with birch floors. The attic contains storage space, a chamber and private bath. The laundry and hot water heating apparatus are in the basement, which is 7 feet 6 inches high. The first story is 9 feet 4 inches and the second story 8 feet 6 inches. The house is 32 feet wide and 29 feet 4 inches deep. The designer states that the house cost \$9,000.

Design "B 172."

A design with a good deal of originality. The treatment is somewhat English and very much cottage style. A noticeable feature is the broad extending eaves with the heavy supporting brackets. This roof projection is 42 inches and it gives a good deal of character to the house.

A cottage of this style should be treated with shingles; preferably, laying the shingles rustic; that is, alternating courses of wide and narrow exposure to the weather.

In the arrangement of the interior the owner desired, as far as possible, to secure an open effect in the hall and living-room, and these two rooms are so arranged that the hall is really a part of the living-room, a splendid view of the large fireplace in living-room is had from dining-room right through the hall. This fireplace is intended to be built of dark vitrified brick, the exposed chimney being of the same. The dining-room is nicely secluded,

is of good size and has a splendid bay with seat.

In addition to the entrance from kitchen to dining-room through the butler's pantry is a passageway through rear entry into the central hall. Space on the second floor is well economized, with a central hall, and we have here two good sized chambers in addition to servant's room and bath.

It is planned to finish this house in fir throughout the first floor, excepting kitchen and pantry, which is pine painted. Second floor to be of pine or cypress.

Width of house, 39 feet; depth, 28 feet. Basement under entire house with provision for a hot air furnace, laundry trays and the usual vegetable cellar and coal bins. Estimated cost, finished as above indicated, \$3,486.

Design "B 173"

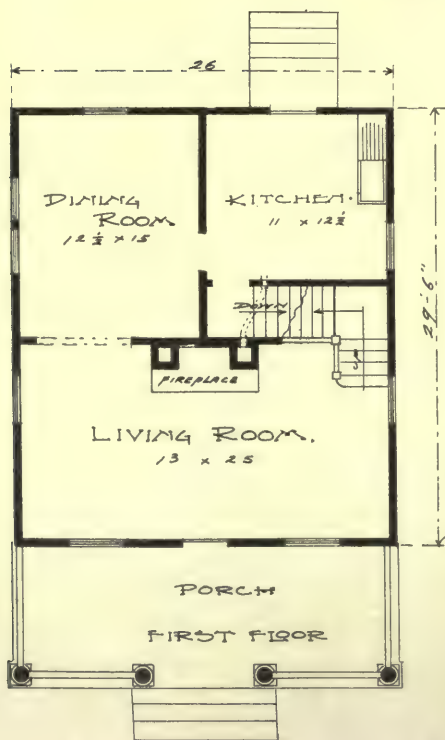
This is a plain, straightforward duplex house of wood construction containing living room, dining room, kitchen, two chambers and a bath. The second floor has also an additional bed alcove, while in the attic is space for two girls' rooms and storage. Separate entrances are provided both front and rear with necessary vestibules to staircase halls. Each apartment has a large screened porch the entire width of the house. There is a side porch with bedding balcony for the second story. The finish is birch stained mahogany in the main room, pine enameled white in the chambers. Ample closets for linen, etc., and cupboards in the kitchen are provided. There are two small hot water plants in the basement in separate rooms, with fuel bins adjoining. The laundry is used in common on appointed days each week. The house is 30 feet wide and 48 feet long. First story, 9 feet; second story, 9 feet; basement, 7 ft. 6 in. The cost was said to be \$5,460.



ARTHUR C. CLAUSEN, Architect

A Square, Roomy House

DESIGN "B167 "



DESIGN NO 517.

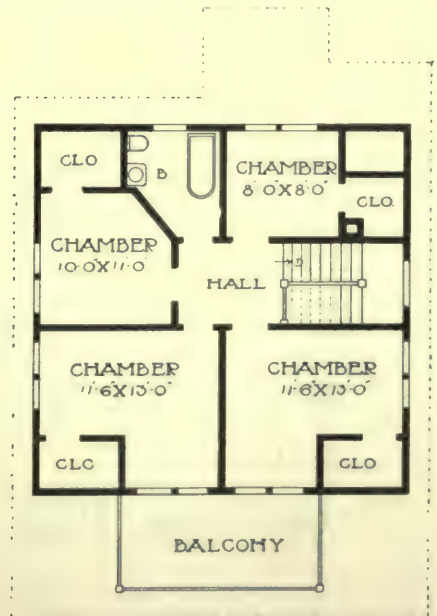
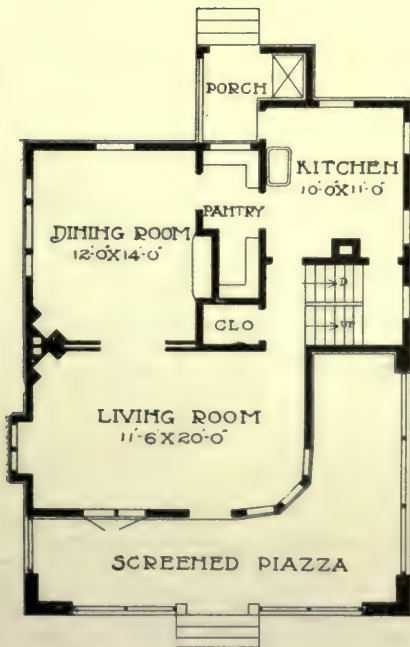




CHAS. S. SEDGWICK, Architect

An Attractive Seven-Room Cottage

DESIGN "B 168"

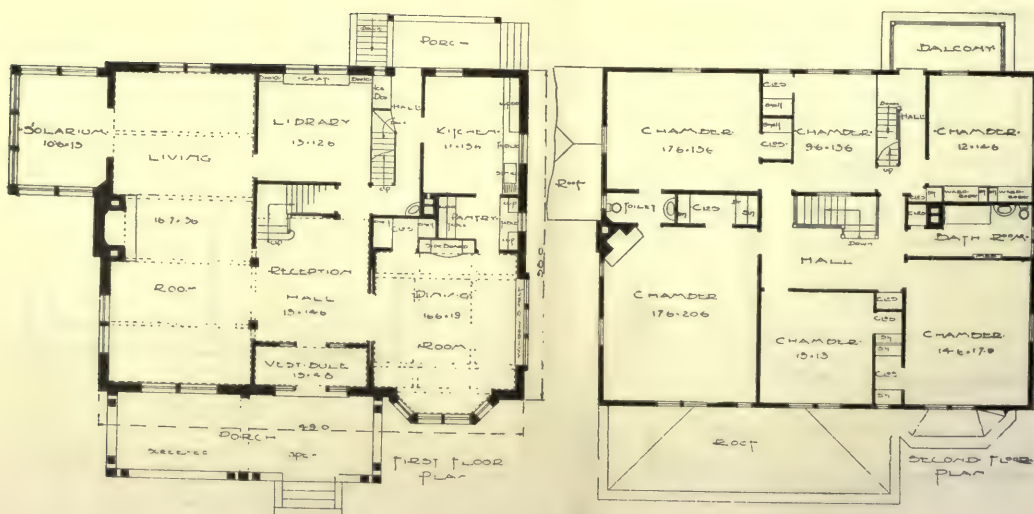




S. J. BOWLER, Architect

A Design of Quiet Dignity

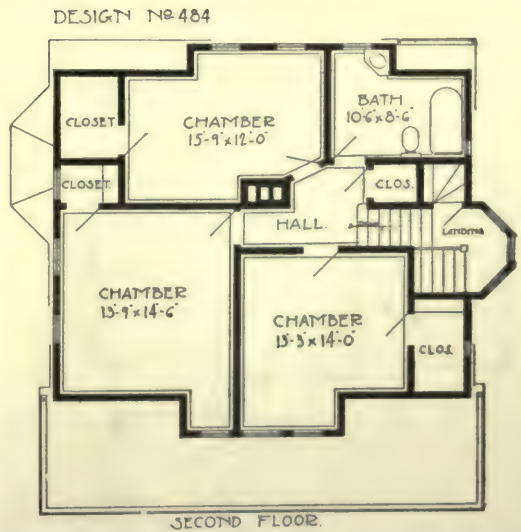
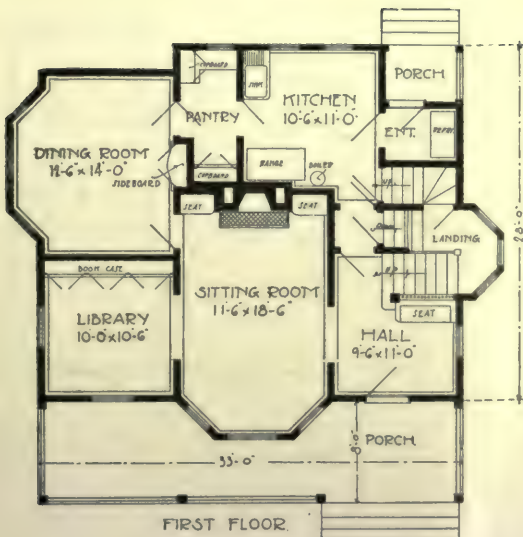
DESIGN "B 169"





A Design of Special Interest

DESIGN "B 170"

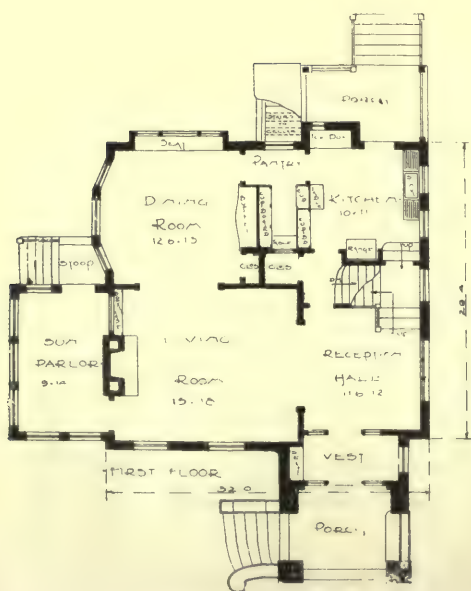




HENRY PARSONS, Builder

The English Type in America

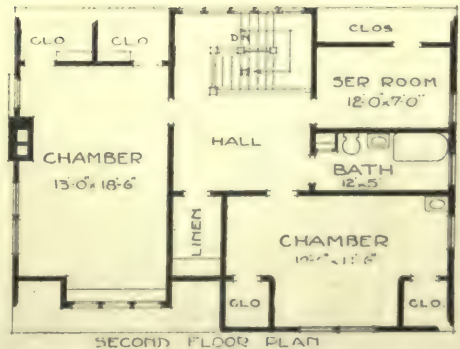
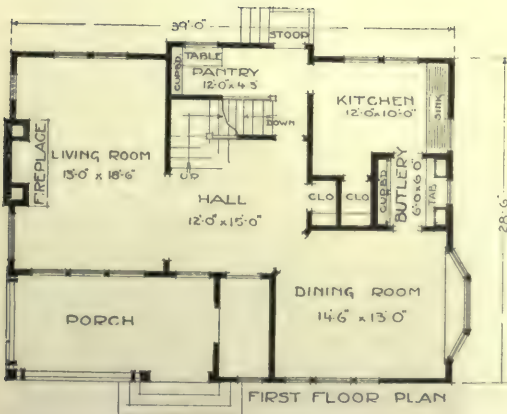
DESIGN "B 171"





A Pleasing Cottage Home

DESIGN "B 172"





A Simple Frame Duplex

DESIGN "B 173"



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Unusual Color Schemes.

SOMEWHAT akin to orange, but of more practical application, is copper color. It, like orange, is not a color for cheap materials, but in fabrics with a sheen or pile it is most effective. It is very successful in combination with low tones of green or blue. In fact the combination of blue and copper is about the only happy association of blue and red for decorative purposes, unless we except the judicious introduction of a very little red into a blue and white scheme.

No one would want an entire wall of copper red, but in burlap it is capital above a wainscot of brown oak, or the darker Mission finishes, and is an excellent treatment for a hall. It is best in a room which is not very full, as it is *hard* to harmonize a great variety of objects with so positive a color. It is a good contrast to the green finishes of the popular Indian splint woodwork, and would be charming for a bungalow living room above a high dado of the splint work, either brown or green, with Madras curtains in green and copper color, green or brown splint furniture, much greenery, and some bits of copper.

In looking for small things to carry out a scheme in which copper color has a part, the Japanese shops will supply porcelains containing much coppery red and gold and lacquers with gold ornament on a reddish brown ground, also brocades introducing the color. Bronze of any but the brightest tones looks well with it and the Liberty velvets often introduce it. Some very effective copies of well-known pictures are printed in sepia, in a reddish tone, and are intended to be framed in either ebony or dark

mahogany. There are also copies of the Holbein drawings at Windsor, which were executed in red chalk, and the ivory-toned plaster casts are delightful against a dull red background.

In England, where they are more courageous about such things, and have less of our reverence for "hard wood" they use black woodwork with a copper colored wall, laying the paint on flat. With a very brownish shade of copper, a very dark Indian red is successful. Also there are soft olives with which it is charming.

Blue and Green.

Now there would not seem to be any special novelty about the combination of these two colors, judging by the displays in shops, but does one often see the combination in private life, so to speak? If one does, is it apt to be successful, or don't you almost always think how much better either color would have looked by itself?

The secret of a good combination of blue and green is in having them both in about the same depth of tone. Otherwise, the result is apt to be suggestive of clothes rather than of decoration.

Also, the respective tones of the two colors must be considered. Your green may be a pure green or a yellow green, but your blue ought to have a tinge of gray, unless you are in search of something a bit bizarre like the combination of turquoise and sage green. But you do not want a whole room bizarre, however much the quality may appeal to you for a corner.

Blue and Olive.

The most pleasing combination of blue and green is where the latter is more or less of an olive. The pure greens

Kraft Ko-na Cloth

Novel texture, durable, sun-proof—this newest Wiggin Creation is distinctive for unique, effective wall decoration. Kraft Ko-Na is of the famous



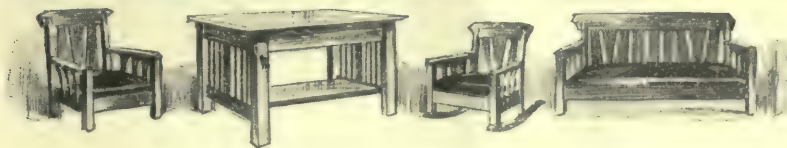
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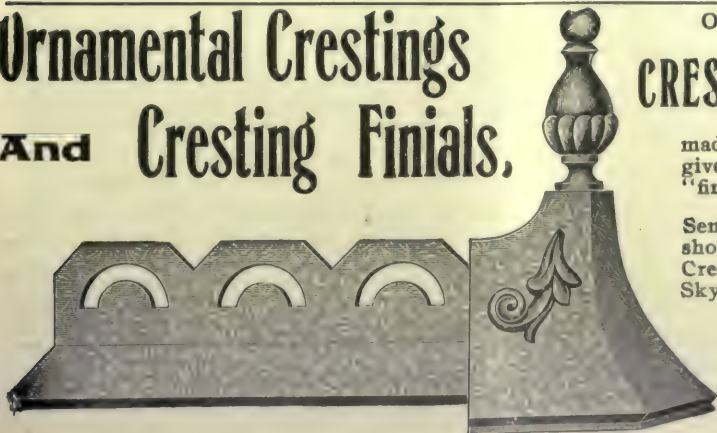
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Decoration and Furnishing—Continued

are better in combination with white, or in self-tones. A grayish green combines well with certain rose shades, or with the yellowish reds.

I am inclined to think that the only really satisfactory blue and green room is the one which is restricted to the two colors. If you must have woodwork of another tone, let it be the darkest of oak or mahogany, or else white. But the best thing is either stained green or flat paint. And the market is full of delightful furniture in green tones. In Wilton carpets you get very good combinations of blue and green, low tones of color and inconspicuous designs. The French cotton tapestries afford a wide range of so-called verdure patterns, as well as some small designs in combinations of blue and green. Or you may hit your special shades of blue and green better in the Liberty cottons, cretonnes or velvets.

In the effective—and expensive—Scotch Madras, are good combinations of blue and green. In the best grade of Japanese crepes are excellent greens which may be finished off with a narrow fringe of green and blue for curtains and covers.

A room with green walls, furniture and woodwork, relieved by grayish blue, is the ideal setting for blue china. Nothing brings it out so well. It is also the place for etchings and engravings in wide mats and narrow black frames, for gold and black lacquer and for a little bright brass. One ought to add that such a room needs sunshine.

Silver Blue and Grayish Green.

An unusual combination, which was used in a room with mahogany furniture was a silver blue, with light greenish gray woodwork. The walls were covered with an imported paper of Persian design, pink, gray and blue, but so blended that the general effect was a delicate blue. The same note was carried out in the hangings and upholstery of blue velour, while in curtains, pillows and small ornaments a very little soft pink was introduced.

Indian Splint Furniture.

This has already been alluded to in these columns, but is evidently gaining

popularity, as it is made in a very great variety of pieces, and a green finish has been added to the original brown. While it is of course intended primarily for country cottages and bungalows, it is well finished and most satisfactory for a den or smoking room, or even a sitting room. Its cost is not much greater than that of ordinary reed furniture and it has much more character.

Entire sets of dining room furniture are to be had. They of course are only suitable for a bungalow or a camp. There are also complete equipages for afternoon tea, including a tea wagon. In addition to the separate pieces of furniture, a wall finish, or wainscot, panels of splint work framed in plain wood, can be had in sections of any desired size.

Persian Prints.

Persian cotton prints are something new. They came in bedspreads and curtains, and the printing is an exact reproduction of the coloring and designs of Persian rugs, except that the ground is white. Spreads, two and a half yards square, are \$8.75, curtains the same price a pair.

Java prints retain their popularity, coming by the yard as well as in regularly printed curtains and covers. Some of them are very beautiful, others almost supernaturally ugly. Crimson and blue are the most effective colors and, as regards design, they are most satisfactory in the palm leaf patterns. Like most Oriental textiles, they do not combine well with ordinary fabrics and their use should be restricted to rooms where they will be the only figured materials used. In precisely the right environment they are delightful.

Japanese cotton crepe is an old friend. It, too, has its limitations. Sometimes it washes, sometimes it does not, and it fades, as what does not? But it has the indefinable charm of most Eastern cottons and while it lasts it is charming.

It is not perhaps generally known that there is a better quality than the common sort. One New York concern owns a factory in Japan where these crepes are specially made for their trade. Costing fifty or sixty cents a yard, they are worth the increase in price over the or-



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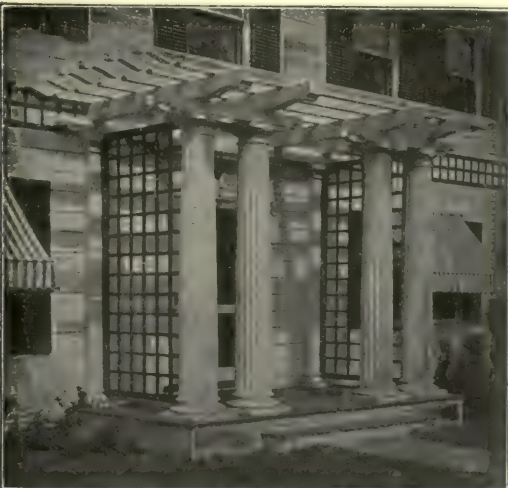
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Decoration and Furnishing—Continued

dinary grade, both for their superior designs and coloring and for the quality of the ground.

New Upholstery Fabrics.

Looking over the stocks of upholstery goods of the better class, one is struck by the prevalence of rose tones. One of the darker shades is called mulberry, but it is quite different from what is generally known by that name. A very beautiful tapestry in this color has a shadowy effect made by the alternation of satin and repped surfaces, with very dull metallic threads introduced here and there in the design. This costs \$4.25 a yard, double width. The same general effect can be found in dull blues and there are good combinations of dull red, golden brown and green, all in low tones.

A tapestry which is desirable for covering a single large chair or sofa, in connection with other pieces plainly covered in velour or damask, has a four-inch stripe of rose brocade, a repped pattern on a satin ground, and a tapestry stripe of the same width, having a pattern of wreaths and baskets of delicately colored flowers on a pale gray ground. This is \$3.50 a yard.

The French cotton tapestries which have delicately tinted landscape designs, masses of foliage opening here and there to show a glimpse of water, or a pictur-

esque building, are effectively used to upholster the long Empire sofas, either antiques or their modern imitations. Indeed a mahogany sofa of almost any period is a possession not to be despised, if one has room enough to place it.

It is a mistake to use these artistically patterned materials for tufted upholstery, as the whole beauty of the fabric disappears when it is cut up into tiny sections by regular puckers. Quite often the tufting can be eliminated when furniture is re-covered, but when it cannot be dispensed with, the only security is a material as nearly plain as possible.

The rose-toned tapestries and brocades are much used for coverings for dull finished mahogany furniture, also for Louis Seize furniture painted in French gray. Green seems to be losing its popularity for all-the-year-round furniture. Even in distinctively summer furniture there is a preponderance of brown and natural tones.

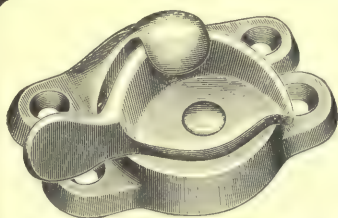
An Old Fashion Revived.

Who remembers the mahogany bedsteads of the forties and fifties whose head and footboards were made up of turned spirals? They were afterward imitated in cheaper woods and probably many of the latter are still to be found in country houses. Now comes the very latest thing in white enamel bedroom furniture and, lo! it copies these old bedsteads to a T. Moreover the mirror of the bureau is framed in the same spirals and they are applied to various purposes of support or ornament.

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M. L. KEITH, Lumber Exchange Bldg., Minneapolis

ANSWERS TO QUESTIONS ON INTERIOR DECORATION

Editor's Note.—The courtesies of our Correspondence Department are extended to all readers of KEITH'S MAGAZINE. Inquiries pertaining to the decoration and furnishing of the home will be given the attention of an expert.

Letters intended for answer in this column should be addressed to Decoration and Furnishing Department, and be accompanied by a diagram of floor plan. Letters enclosing return postage will be answered by mail. Such replies as are of general interest will be published in these columns.

S. H. We want to paint again this fall and don't know what color to use. Will send picture of house and description of color now painted. Lower part is a warm cream and second story stained black, cornice and ceiling of porches burnt orange, with quarter round between corner boards, black. Would like to have something new and something that would look well, as the house next door is a two-story bungalow, stained a burnt sienna, trimmed with white and an architect lives in it and my husband is a contractor and as everybody says we have the two craziest houses in town, I would like to help the effect. Our house is surrounded by large oak trees and there is nothing south, except barren land; would like some color that is in keeping with all surroundings and also latest style.

Ans. Mrs. S. H. This magazine does not advocate bizarre or startling effects, either architectural or in coloring. On the contrary, quiet harmony, natural tones and combinations, are considered desirable.

The roof of your house being stained black, must remain so, though it might take on a very dark green. With this roof, a body of deep Colonial buff would look well, with trim the same and white window sash. The black quarter circle mouldings between corner boards should be painted same as body of house, as such treatment gives an unpleasant striped zebra effect.

J. T. H.—We have recently purchased a house containing seven rooms and bath. Would like your help as to finishing walls, all of which are now in bad condition. Enclosed find rough sketch of house. The first floor is finished in quartered oak, hardwood stairs, floors, etc. For parlor I have mahogany furniture upholstered in cream with pink roses and green foliage. My rug is pale green

Wilton, very plain, curtains plain cream net with hand-made French trimming. How would that room look best papered? It opens into dining room and reception (which we shall use as living room). My piano is very plain waxed mahogany in almost Mission style. Furniture for living room is Mission and red leather, also Mission furniture in dining room. Have tan velvet rug. Shall I use it in dining room or living hall? Thought of small rugs in living room or dining—which? What shades should we use in each for walls?

The woodwork upstairs is white enamel, have brass bed and birds-eye maple furniture, one old four-poster in cherry, one white iron bed, one Tuna mahogany dresser in Colonial design, glass knobs, etc. It is almost an exact match for four-poster bed. Shall have one dresser to buy. Shall I use mahogany dresser in room with white bed and risk getting genuine old dresser for Colonial bed? Wish to use white bed in own room, as baby's bed is white. Have mahogany rocker to match old bed. As for rugs, have one old rose and tan, one green and buff, a matting and one red and blue extra (has been used in dining room a short time). Thought of getting rag carpet made for room old bed is used in. My window shades are buff. Shall carpet upper hall. Please suggest color. The bath has been wainscoted and oil painted in blue above. Would like it white. As for exterior, the house is half frame, upper half plaster. Wish to paint. What color would be best? Would you paint shingles on roof? If so, what color?

The house has California privet hedge with iron gate. We must have some sort of fence. Will hedge do in regard to general appearance? The upstairs floors are not finished, but are a good quality of hard pine. How would be the best way to finish to give hardwood appearance?

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Answers to Questions—Continued

Will you give suggestions as to portieres? Would you advise plate rail in dining room? Did I make it understood that all rooms are to be frescoed except parlor?

J. T. H., Ans.—Your letter, which gives a clear and helpful idea of your needs, is lacking in one important point, viz., the facing of the house. There is nothing to indicate this. Inasmuch, however, as the upholstery of the parlor furniture with pale green rug determines the wall color of that room and the red leather Mission furniture of the reception hall opens from it, we must try to harmonize these rather conflicting elements by the use of a pale ecru wall in parlor, deepening into a peculiar brown which is fairly well in tune with red. Now it is impossible to get this shade of brown in a calcimined wall, and it is strongly advised to use paper on the reception hall as well as in the parlor. I have by me such a paper, in two shades of brown with touches of very dull, very soft low-toned green, which would make a suitable background for the furniture you describe. Also a parlor paper in two tones of ivory ecru, admirable with your rug and upholstery. The one large tan rug should be used in the dining room, as small rugs are not at all suited to dining room use, and the wall tinted tan to correspond with the rug, with deep cream ceiling. If a plate rail is used, it is advised to place it high upon the wall, on a line with the tops of the doors, and to bring the cream ceiling down to meet it. This scheme of color may appeal to you monotonous, but the effect will be much more refined and agreeable than if

a medley of colors were used. You can give color to the dining room by the use of ecru madras curtains with a design in green, gold and rose. I should advise one large rug in the living room also, in shades of brown with touches of red. The portieres between living room and parlor must be double. They must be ecru on parlor side in both openings; living room side may be lined with inexpensive cotton rep in soft old red.

In regard to chambers, put the brass bed and birds-eye maple in a room you can tint soft blue or pale green with green and buff rug. Use the Tuna mahogany dresser with the four-poster, and tint walls pale ecru, with old rose and tan rug. Do not get rag rug, but upholster chairs in old-fashioned chintz in rose, tan and green. Use dimity spread and window curtains. Tint the wall of remaining bedroom a deep Delft blue up to tops of doors, the ceiling white, coming down to meet it. Put your white beds in there, and use white matting on the floor with your blue and red rug. Woodwork of upper hall should be white and carpet dark red.

In regard to exterior, paint frame part as near color of plaster as you can, with white trim on window sash. By all means stain roof shingle. Use moss green. As it is an old roof, it will require two coats probably.

I should think the California privet hedge would be fine, and require nothing more in the way of fence.

Your ideas as to bath and kitchen are good.

Scrape and smooth upstairs floors and finish with two coats varnish, or fill and wax, as you prefer.

A. G. H. I am enclosing stamps for suggestions as to paper, wood finish and finish of floors in a new house facing south; 9-foot ceilings. Living-room, 15-26; grey mantel in living-room and dining-room—one in living-room reaches to ceiling. All windows have small upper panes. Interior finish of house being oak. Stair case and dining-room paneled in oak. Dining-room is on northwest corner and living-room on south. Living-room has side lights in lantern form, also on fireplace chimney. Southwest corner upstairs 12x14 in connection with



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Answers to Questions—Continued

open hall makes a parlor above with mantel in northwest, across corner.

A. G. H. Ans.—In reference to your letter, desire to say that the open stairway and the grey chimney breast reaching to the ceiling, give a certain bungalow atmosphere to your house, although it is a two-story dwelling. That is, these features demand a feeling of strength in the treatment. You do not state the character of the chimney breast, but supposing it to be either of grey brick or plaster, the wall finish to be in harmony would be of rough plaster stained. A rough sand finish plaster wall tinted a soft, warm grey, with the oak woodwork a fumed brown, would make an ideal background for rugs, draperies and furniture coverings in rich green. Such a treatment would be excellent for carrying on up the stairway and continuing into the upper hall, which forms part of the upstairs sitting-room. This upper room must necessarily be rather public as it forms the passage way to the other rooms and should be furnished with considerable strength. Some of the cretonnes which come in bright, strong conventional designs on a dark blue or dark green ground, would be admirable here, used with olive green wicker furniture and a rug in strong colors, dark green with touches of dark red.

The floors should be stained slightly darker than the trim. In case the walls have already been finished in a hard putty coat, then the best treatment is to paper with a rough surfaced putty grey paper, which is an excellent imitation of rough plaster, at 50 cents a roll. The same fumed, brown stain should be used on the dining-room woodwork and a lower wall of green or blue burlap or a fabric paper with the upper wall and ceiling in creamy yellows with a sunset frieze or a peacock paper decoration, would be an effective contrast to the living-room. The upper and lower wall could be divided by a flat, three-inch wide band of wood matching the woodwork.

The bedrooms should have white or ivory woodwork and walls papered in light tones with some of the charming things that come for chambers. The southwest chamber for instance, in green and white with paper of a snowball design; green and white rugs on floors.

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Training Husbands.

A GOOD many years ago, before the vogue of the woman's club, the wives of the faculty of an Eastern university used to meet regularly to discuss various matters pertaining to the nurture and education of children, and their deliberations were afterward printed, for the encouragement and edification of less enlightened mothers.

One of these women defined the duty of a mother to be, "To bring up her sons to be good husbands, and her daughters to be sensible and contented old maids." It was a dictum which seemed to be rather hard on the girls of the faculty, but as to the boys it was certainly wise. Decidedly, the average man is not trained to be a good husband. If he is an exceptionally gifted person, or a born altruist, he may become one, but only after many struggles at his wife's expense.

Unselfish Mothers.

It is one of the little ironies of life that the unselfish woman is apt to have exceedingly selfish children. Or is it not rather a case of stupidity on their part. Never having had the way of self-sacrifice in small things pointed out to them they pass it by unconsciously. A sort of spiritual dullness is apt to pertain to the immediate associates of a saint. And so a lack of perception as to the obligations of the members of a family would seem to be inseparable from an unusually high development of it in the head.

Few women realize the importance of training little children to be helpful in small ways. Not that one should allow the four-year-old to wipe the best china

and break it in the process, but it is a step in the right direction to insist that even a little child shall pick up his own playthings, that Johnny shall not sharpen his pencil on the tablecloth, and that Polly shall pick the snips off the floor, when she has been dressing dolls. No, the self-sacrificing instinct comes to the fore and mother does all these things herself, with the cheerful result that when Johnny is a married man, a liberal part of his wife's time is spent in picking up after him.

There is a purely material aspect to the self-effacement of women which would amount to nothing if the average woman was physically equal to her burdens. She ought to be but she very often isn't and she spends the whole of herself on the little physical cares of life, with the result that there is precious little left of her for the more important matters of judgment, and sympathy and comprehension, for her children. It isn't possible to enter into the small joys and sorrows of little people when nerves are on edge and muscles aching, yet the not entering in means a tremendous loss to both mother and children, possibly a twisting and warping of the entire fabric of life. Especially is this true with children who are a bit unusual. The highly strung, nervous child, the boy with the artistic temperament, needs his mother for something a great deal better than finding his mittens and picking up his apple peelings, and sharpening his pencils. There are several sorts of altruism and the best of all is the spiritual sort, which thrives best in connection with a sound and rested body.

To be sure, it requires self control and

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Household Economics—Continued

a certain reversal of inherited instincts to acquire it, but it is worth while, not merely for one's children's sakes, but for the sake of the wives of the next generation. To be sure it is quite probable that your son's wife will not follow the good example set her and will bring up her sons to be selfish, but you, at least will have done what you could in the interest of better things.

Women as Food Inspectors.

The office of food inspector is one to which women of ability would seem to be specially adapted. The trained housekeeper has generations of discrimination along these lines behind her and it would seem that she might employ it for the public good, much to the advantage of everyone concerned.

Work of this sort requires above all things an aptitude for detail, and a woman's training as a housewife has taught her very little if it has not given her this indispensable faculty. Given this, and all the processes of life move to an orderly conclusion. Without it, life is wasted doing over things already done.

In places where the appointment of a regular food inspector is not feasible, much may be done by organized work among the women of the place in the way of moral influence. The village improvement societies which have done so much to beautify the face of the country were not clothed with any sort of official power. But they gradually accumulated such a force of public sentiment that they could regulate the appearance of the towns quite as effectually

as if they had had an act of the legislature to fall back upon.

When the tradespeople of a town understand that their customers insist upon a strict observance of the existing ordinances as to the quality of their goods, when they realize that accounts are carefully scrutinized, that overcharges are noted and that people generally insist upon getting what they pay for or go elsewhere for it, then a revival of honest practice may be looked for. Its motives may be questionable, but its results will leave nothing to be desired.

Testing Temperatures.

Not everyone knows that nature has provided us with a permanent standard of temperature, as far as fluids for eating or bathing are concerned.

Liquids which are not uncomfortably hot when applied to the back of the hand can be drunk, while water for bathing may be tested by putting the elbow into it. These tests are specially useful for children who are seldom able to stand as high temperatures as their elders, though there are exceptions to all rules.

The Utility of Certain Foods.

One often hears emphasis laid upon the fact that fruits and vegetables are composed almost entirely of water, the inference being that they have no nutritive value. In one way this is true, but they contain mineral salts which stimulate the digestive processes and assist in the assimilation of food. They should therefore always be eaten in combination with articles of positive nutritive value. Fruit or salad with bread and butter is an ideal meal, at least once a day.

Jellies to Eat With Meat.

The later months of the summer are the time in which to think of filling up the shelves of the store closet with jellies. Currant jelly is an old stand-by, but plum and gooseberry, though less known, are specially good with meat or poultry. The same rules hold good with them all. The fruit should not be too ripe; allow a pound of sugar to a pint of strained juice; heat the sugar before adding it to the boiling juice.

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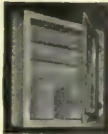
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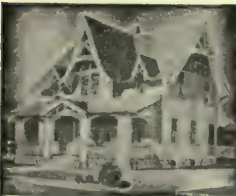
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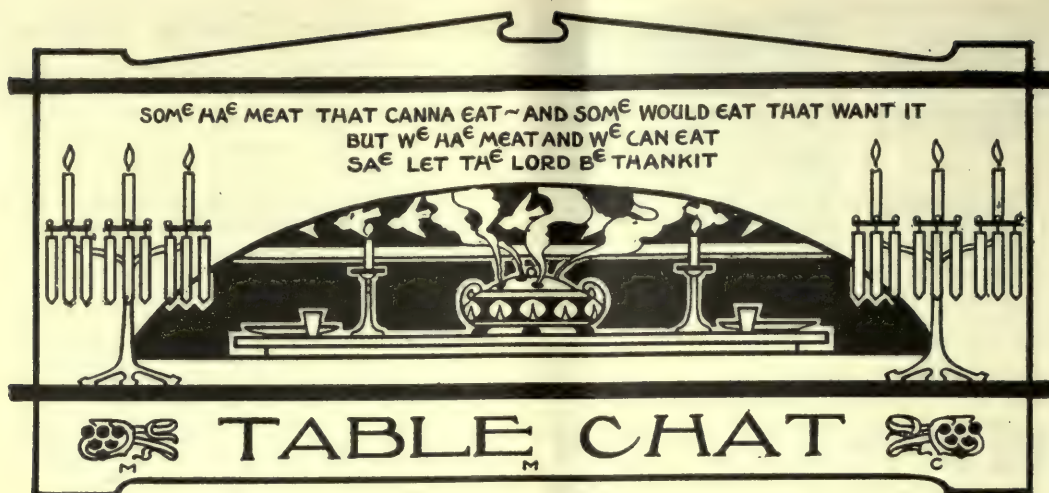


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IF one is fortunate enough to be able to have a service of fine china for special occasions, its selection should be a matter of anxious thought. Many wares, exquisite in themselves, are impossible with some floral decorations. For instance, you may have a garden overflowing with nasturtiums, in all their varied shadings, but what avails it if your china is distinctly pink? Had it had borders of the royal blue of Dresden or Worcester, or were it blue Canton, it would have been another story.

Probably the most satisfactory thing to get, in the long run, is white and gold. Now there is gold and gold in china decoration, as there is in picture frames. Better have a very little and have it good, than a mass of heavy and coarse decoration. The most satisfactory gold is found in some of the Limoges wares. Of the English wares, those from the Worcester potteries are as good as any. Their mat gold is specially beautiful.

If white and gold is unattainable, or does not appeal to you, the next choice is green and white. If the decoration is more than a line, a whole service is apt to be overpowering. Better confine yourself to the necessary dishes for the soup and meat courses, adding a chop set for luncheons, and get separate salad entree and dessert services. This gives you an agreeable variety, and enables you to use some of the more effective wares, which are hardly adapted to an entire service.

Colored Embroideries.

The same caution applies to the use of colored embroideries for the table. A centrepiece with colored embroidery of definite tones is almost impossible with anything but white china, unless it has been made with the express purpose of matching the service. This is sometimes done, with success, although it must be said it takes someone who is a good deal of an artist to adapt the design and coloring of the china to another medium.

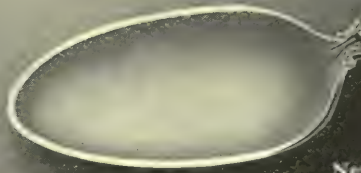
So with the colored luncheon sets, beginning to be seen in the shops. They are very lovely, but one must feel that they are rather impossible. It has been suggested that the tablecloths deprived of their fringe and edged with heavy lace would make pleasing bedspreads, but what shall be done with the napkins?

The fact is that nothing will ever successfully supersede white for certain purposes. Nothing but white, either crisply laundered damask, or lace and embroidery of exquisite workmanship, gives the impression of daintiness which is essential to perfect table service.

Japanese Towels.

A recent fad is the use of the blue and white Japanese towels for table napkins and runners with blue and white china, of the Canton sort. One towel makes two napkins, and the ends are hem-stitched. Naturally, the use of things of this sort should be confined to the out-of-doors table, or to the various other manifestations of the simple life. The worst of the Oriental blues is that they

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Be sure
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PETRIFAX
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keg and
can.



Table Chat—Continued

are utterly at odds with almost everything else in the way of color, and one is confined to yellow or white flowers, unless happy enough to hit the one shade of pink which goes with them.

Some Salad Combinations.

A very good salad, the specialty of one of the New York hotels, is made from equal parts of sweetbread, boiled and diced, and of the tender stalks and leaves of celery. To these are added half the bulk of chopped walnut meats and the same of split and seeded white grapes. The mayonnaise dressing is made with tarragon vinegar with an addition, just before serving, of whipped cream.

Another combination is sliced tomatoes, young cucumbers on a bed of lettuce leaves, with a sprinkling of chopped mint. This is also served with mayonnaise, and the salad bowl rubbed with garlic.

An exceptionally pretty salad is a bed of heart leaves of lettuce, on which are arranged balls of cream cheese mixed to a paste with chopped pimientos. Serve with a pitcher of French dressing and brown bread and butter sandwiches.

A rather redolent, but extremely good salad is made in layers of shredded lettuce leaves, thinly sliced white or Spanish onions and shavings of Roquefort cheese. Sprinkle each layer with salt and oil and a dash of cayenne or paprika, and pass the vinegar at the table.

Condensed Milk for Salad Dressing.

Freshly prepared, unsweetened condensed milk is not to be had everywhere, but when attainable is a valuable ingredient for a salad dressing. Mixed with dry mustard, yolk of egg and a little vinegar or lemon juice, it is a very good dressing for people who dislike oil. Or, if the oil is short, it may be supplemented by an equal bulk of milk, and the result is much the same as when whipped cream is added. Lastly, a very much curdled mayonnaise can be redeemed by the addition of a tablespoonful or more of condensed milk.

In New York, the unsweetened milk sells for seven cents a half pint. Three times its bulk of water added will give milk of ordinary richness, at less cost than the untreated milk, and the differ-

ence in cost between it and even the lowest grade of canned milk is very considerable. It is a great advantage in cooking to be able to get milk of any desired degree of richness by merely modifying the quantity of water added.

Poppy Seeds.

Poppy seeds come from Holland and are much used as a finishing touch to various sorts of foreign cakes and pastry. Until lately they were only to be found in delicatessen shops in the foreign quarters of the large cities. Now they are carried by the large grocery establishments. They are roasted in the oven until crisp and pungent, but must not be allowed to burn. They are sprinkled over the top of cakes and pastry cakes while they are still warm. They are also used with salads and with various sorts of cheese dishes.

Fat Norwegian herring put up in bouillon, come in an oval tin, like kippered herring, but in a smaller size, both as to the tin and the fish. They are very savory eaten with a squeeze of lemon juice and a green salad, or worked to a paste with creamed butter for a sandwich filling.

Another delicatessen product is pickled lambs' tongues. These are molded in an aspic jelly and served as a relish, or in slices on lettuce, with a mayonnaise. A good substitute for the more complicated aspic is canned consommé, highly seasoned and set with gelatine. A very good tomato jelly may be made in the same way from the canned tomato soup.

The Breakfast Party.

Breakfast parties have always been more or less in vogue in England, but in this country have usually been confined to weddings. Just now they are a fashionable form of entertainment. The formal breakfast is never served later than half-past twelve, and the decorations of the table are confined to the centerpiece of flowers, and that a simple one.

It begins with fruit, followed by egg and fish courses, and some sort of a meat entrée. A salad, a very simple sweet and coffee served on the table by the hostess conclude the meal. The comparative simplicity and informality of a breakfast lends itself to agreeable social intercourse and offers excellent opportunities to a clever hostess.

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—Macbeth.

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REMEMBER:—It is not what you pay for plans that is the *real consideration*, but it is *what you get*. Why? Because upon your *plans* and especially the *details of construction* depends utterly the *proper or improper expenditure of all your building funds*. Quite important, is it not?

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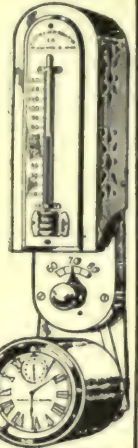
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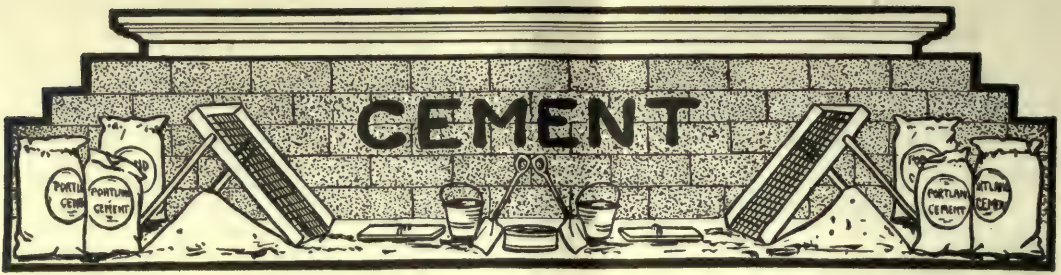
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Press Bulletin.

A twenty-four page prospectus is being distributed by the Cement Products Exhibition Co., 115 Adams street, Chicago, among the various concerns who have material for exhibition at the New York and Chicago cement shows. The prospectus contains full information about these shows, the rules and regulations governing them, diagrams of spaces and prices of spaces.

It is announced that the first annual New York cement show will be held in Madison Square Garden, December 14-20, 1910, and the fourth annual Chicago show will be held in the Coliseum, February 17-23, 1911. The show at New York is the first venture in that city but it is believed that the show there will prove quite as successful, if not more so, than the annual Chicago cement show.

The railroads have been petitioned for a reduction in rates for the big cement gathering and it is hoped that arrangements may be effected which will work out as satisfactorily as the reduced rate arrangements at the Chicago show last year proved to be. There is some question, however, as to whether the Trunk Line association, which comprises most of the lines running out of New York, will offer a reduced rate for the show.

Despite a general impression to the contrary, there is less exhibition space at Madison Square Garden than in the Coliseum in Chicago and many prospective exhibitors are consequently awaiting with keen interest the allotment of space, which will not be made until September 1.

The Cement Products Exhibiting Co. has already promised that the New York show, as well as the next Chicago show, will have a somewhat different aspect from previous cement shows. Practically all those who expect to exhibit are

already making plans for elaborate and artistic displays. It is expected, too, that there will be some change in the general character of the exhibitors. Many of the larger construction companies have become interested in the possibilities of the shows and as a result will have on display some most unusual and valuable exhibits with the idea of interesting the business man and the public generally in the advantages of reinforced concrete construction.

The cement shows each year in the past have shown vast improvement over each preceding one. The well-nigh intolerable aggregation of dirt, dust and noise-making machinery, which was once called a cement show, is now giving way to beautiful and expensive effects in ornamental concrete, splendidly installed among artistic and costly decorations.

It is confidently expressed that the shows next winter will gratify the aesthetic tastes of the most discriminating audiences.

The Minor Uses of Cement.

Two years ago, says Cement Age, cement literature was chiefly confined to technical discussions from the chemist and engineer, descriptions of large engineering works and suggestions as to the utility of cement for minor purposes. Today the leading technical publications, and even the daily papers, contain columns relating to the actual use of cement for the small purposes formerly discussed in a tentative way. This development has been truly remarkable, and what may be termed the every-day uses of cement is an exceedingly popular theme. This is because cement is actually being used in vast quantities in every section of the country by farmers and owners of town and suburban property. Architects are deeply interested in cement as applied to dwelling



Asbestos "Century" Shingle Roof—Residence of Mrs. H. J. Lewis, Stony Creek, Conn; Architect and Contractor, Warren R. Briggs, Bridgeport, Conn.

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GETTING a truly serviceable roof is not the impossibility that you would naturally think from past experiences. Now-a-days, it's merely a matter of getting all the facts and buying with your eyes open. And the question of cost does not enter into it—for Asbestos "Century" Shingles cost no more than you figure on paying for a first class roofing.

Asbestos "Century" Shingles makes a really *permanent* roof—durable through time and weather—proof against fire. Made of hydraulic cement and asbestos fibres, the two most indestructible materials known to science. They are the first practical light weight roofing material made of reinforced concrete.

Asbestos "Century" Shingles cannot rot, rust, crack, split or blister.

You can get Asbestos "Century" Shingles in three colors—Newport Gray (silver gray), Slate (blue black) and Indian Red—in numerous shapes and sizes. Talk to your responsible Roofer about Asbestos "Century" Shingles.

Write for our illustrated Booklet, "Reinforced 1910," full of valuable information for the man with a building to be roofed.

The Keasbey & Mattison Company

Factors

Ambler, Pennsylvania

Cement—Continued

construction. Landscape gardeners find it absolutely essential from an economical standpoint. The farmer, without the assistance of the skilled mechanic, has learned to use cement for almost countless purposes. It has come to be thoroughly understood that a proper mixture of Portland cement, sand and stone means an indestructible material far more satisfactory and economical than wood. We no longer hear it said that "with our fast diminishing timber supply cement will come into general use." That state of affairs exists. "Why not of cement or concrete?" is the query every householder propounds to the mechanic called in to make repairs. Frequently he makes them himself without consulting a mechanic.

It would be interesting to know how many millions of barrels of cement are used annually for these minor purposes. Notwithstanding this vast consumption, however, the development of cement construction in this field has just begun. Much of the frame and timber construction of recent date still endures, but its life is only a question of a few years. Its decay will mean large increase in the demand for cement. No intelligent and well-informed property holder will in this day use wood if concrete will answer his purpose. Constant improvement is taking place in methods of construction and always in the direction of economy, while new uses are being discovered from day to day, making it safe to say that the consumption of Portland cement for minor uses will show constant and surprising increase for years to come.

Test of Sand Blast Finish for Concrete.

This interesting experiment was recently tried, using the sand blast on a block of concrete to determine the feasibility of using the same method for finishing instead of bush-hammering the surface. The number of square yards to be surfaced by bush-hammering was about 10,000. The entire exposed surface was "faced," during construction with a mixture of 1 to 4 cement and fine blue granite 2 inches thick. It was desired to cut out the cement on the surface and show the granite. The experiment showed that 80 pounds pressure was necessary to accomplish the cutting with the sand blast—only about 60 pounds are used when cleaning stone or steel. The sand blasting required about the same time as bush-hammering, and the resulting cost was about the same by either method. It was also shown that the sand blast tended to expose all the defects in the surface and where any rough places in small cracks appeared, the blast cut into them and made them appear worse than before. Bush-hammering on the other hand tends to fill in any small cracks or defects in the surface and cover them up.

Should Cement Be Sold by Weight?

At a meeting of the American Society of Engineering Contractors, the custom of selling cement by weight came in for a good deal of criticism. A particular source of trouble, it was contended, is the fact that while cement is bought and sold by weight, its proportion to other ingredients with which it is mixed in construction work is figured according to volume. The added facts, that weight and volume do not always bear the same ratio to each other, and that there is a considerable difference between the volume loosely packed and the same weight of cement when closely packed, tend only to aggravate the case. The society closed the discussion by passing the following resolution:

"That it is the sense of this meeting that the American Society of Engineering Contractors adopt, and advocate for general use, as a standard bag of cement, one weighing 94 pounds, and that this be considered the equivalent of one cubic foot."

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Bird's-eye Maple and
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Q One important feature is the **wedge shaped tongue and groove** which enters easily, drives up snug and insures a **perfect face** at all times **without after smoothing**, an advantage that is not obtained by any other manufacture.

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CHARMING Moorish beauty and dignity of appearance of Metal Spanish Tile gives an air of distinction to the home graced by this wonderful new and practically indestructible roofing.

It has taken home builders of America by storm, for it is the modernization of the wonderfully beautiful roofs of historic Spanish edifices.

The art of making this roofing, left behind by fleeing Moors driven out of Spain centuries ago, until 1910 could not be made practical for the modern home; despite its alluring beauties.

After years of experiment, we have hit the solution. That is why today we are able to offer American homes the amazing attractiveness of

Metal Spanish Tile Roofing

Its scores of vital, practical advantages cost no more than common roofing, yet mean tremendous economy—it needs no repairs and outlasts several ordinary roofs because of its practically indestructible metal construction.

It is absolutely wind, weather, storm, fire and lightning proof.

Easy to apply. No soldering, no special tools—any ordinary mechanic can apply it. Interlocking system by which tiles dovetail into each other makes the roof absolutely water tight and provides for expansion and contraction perfectly—summer and winter. It is guaranteed non-breakable.

HOMEBUILDERS—Simply send us today the dimensions of your building and we will tell you by return mail exact cost of all material. Our new 1910 book on beautifying the modern American home by use of Metal Spanish Tile is yours for the asking. A postal will bring it. Address

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The Largest Makers of Steel Roofing
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Don't build a house for a home until you have studied our helpful book

"Concrete Houses and Cottages"

It is in two volumes, one of large and one of small houses, \$1.00 each, and contains hundreds of pictures of successful concrete houses together with floor plans.

It will not only convince you that your house must be of some form of concrete, but it will also convince you that

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Atlas Portland Cement is made from genuine Portland cement rock; it is pure and uniform; it contains no furnace slag, and it is the kind selected by the United States government for use upon the Panama Canal.

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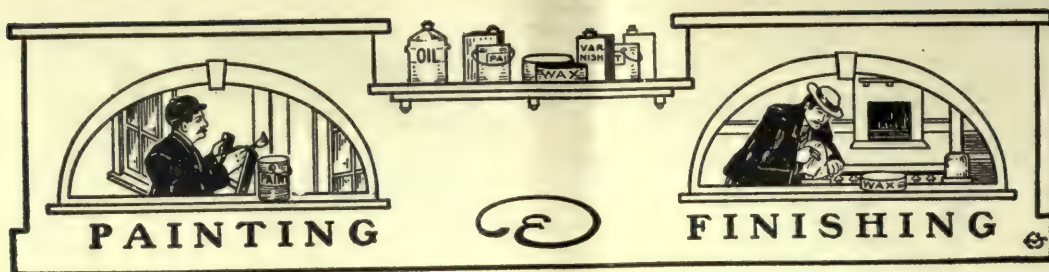
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Largest productive capacity of any cement company in the world.

Over 50,000 barrels per day.



NONE JUST AS GOOD



Paint Required for a Given Surface.

In deciding upon the amount of paint required for a given surface, the makers of paints usually advise two coats of ready mixed paint for 200 square feet of surface to the gallon. This is only approximately correct however, because much depends on the character of the surface to be treated, and the consistency of the paint to be used. Some paints will go much farther than others. It is estimated by some experts that 18 pounds of white lead will be required to make paint to cover 200 square feet of surface. This would indicate 18 pounds of lead to a gallon of paint.—Exchange.

Coating Tin Roofs With Coal Tar.

The question was recently raised by a correspondent of the Painters' Magazine as to what would be the best treatment for a tin roof that had been coated for some time with coal tar. He stated that the tar could not be removed because its removal would open up leaks where the tin had rusted badly. Oil paint was tried, but it did not adhere to the tar. In some places the tar was $\frac{1}{8}$ in. thick, and in other places the tin was bare. The tar on drying crawled in bunches, and on hot days the sun softened the tar.

The journal in question replied as follows: The best remedy would be a new roof, and if the roof is a flat one, a gravel and tar on top of this without removing the tin would be best. However, if the roof is gabled or if gravel roofs are not in use in that locality or if the owner does not want to go to the expense of a new roof, the very best thing to do is to wait until the tar becomes hard and then go over the roof with a stiff broom, removing whatever loose dried up tar may be there. Then coat the bare spots on the roof with liquid coal tar, to every gallon of which add $\frac{1}{4}$ lb. air slaked lime (quicklime that has been permitted to fall into powder

by exposure to the air and is then sifted) and 2 ounces of dry soda ash or pearlash. Stir thoroughly, and if the coal tar is too heavy thin with coal tar naphtha or turpentine. Do not use benzine or gasoline for thinning, as that makes it too brittle. Instead of one heavy coat, apply two thin coats. If some of this gets on the old tar it does not matter, as you can hardly spoil the appearance of the roof now.

Estimating Plaster and Painting Work.

Homebuilders who aim to have work done by the day will be interested in the following items from an exchange.

In estimating plaster work, the first thing to be considered is the amount of mortar and lime required for every superficial yard of surface plastering, and the amount of time in its preparation and manipulation. The carriage of material is also an important matter, and the facility for its application upon the different parts of the building. There are some buildings which require more scaffolding than others, and although the plasterer in general does not supply the main scaffolding or that for his own special use, yet it is incumbent upon him to remove it from place to place as necessity demands. This requires considerable time, so must be allowed for according to exigencies of the case. Again, the different loads of plaster require a certain time to be properly performed, and it is for the plasterer to consider this in estimating. Then there is the moulding of the stucco cornices and ornaments. The time in their preparation, as well as the material used, and the labor entailed in their setting up and mitering are to be duly considered. The making and setting up of plaster columns and pilasters, and the formation of arches should be carefully calculated as to the time employed in their construction. The formation of all heads, enrichments, arises, mouldings and centerpieces should

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make beautiful houses more beautiful, ugly houses attractive, and redeem commonplace houses. They are also cheap, easy to apply, and guaranteed fast colors; and they are made of Creosote, "the best wood-preserved known."

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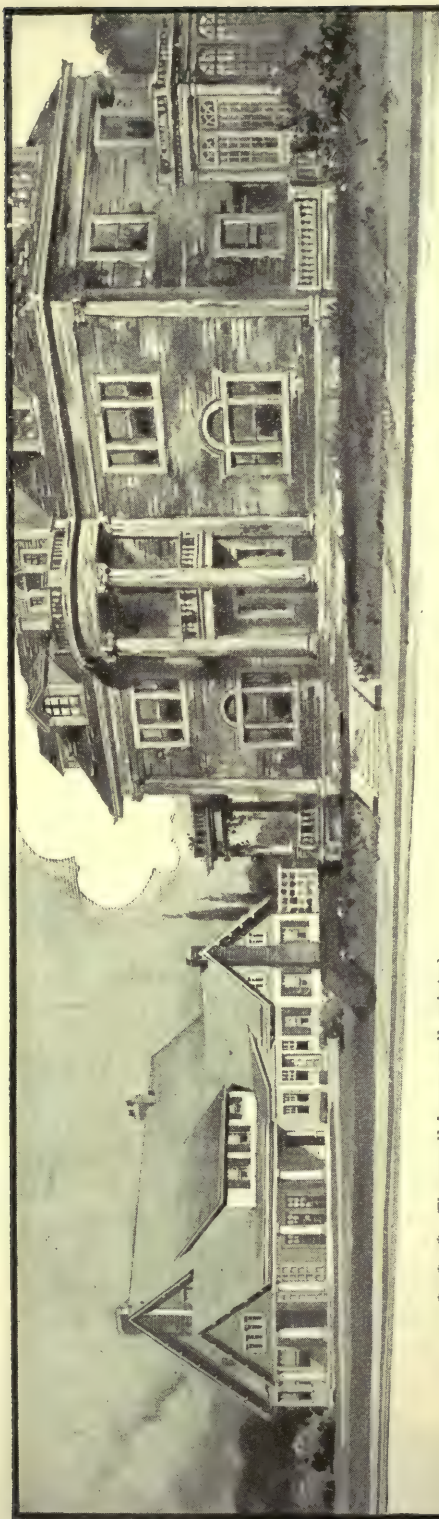
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* * * Pretentious—but it needs paint

WHENEVER you walk around town it is natural to compare one man's place with another. The house well painted and in good taste will invariably create a better impression than a more pretentious place costing twice as much but in need of paint.

¶ If it is important to paint, it is more important to use the best paint.

¶ If you ask your painter simply to "paint" your house, the painter is at liberty to use any material he may wish. If you say "white lead my

house" the painter knows he is to use only pure white lead and linseed oil mixed especially for the job. And that is the kind of work you want.

¶ Pure white lead ("Dutch Boy Painter," trademark) has made and kept its reputation as the *standard* for years, because it has stood up against the weather and because it is economical paint. Mixed properly with pure linseed oil at the time of painting, tinted to any color or tint you want, then put on right by a good painter—pure white lead will give your property new life and add years to it.

Our "Dutch Boy Paint Adviser No. KE" covers the subject of decorating thoroughly, with pictures and text. Free on request

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New York Boston Buffalo Cincinnati Chicago Cleveland St. Louis
(John T. Lewis & Bros. Co., Philadelphia) (National Lead & Oil Co., Pittsburgh)



Painting and Finishing—Continued

be calculated according to the labor expended and the material utilized. There are a few kinds that the plasterer would do well to give his careful attention to, as they will enable him with greater facility and accuracy to come to a proper estimate of his work.

Estimating Painters' Work.

In the estimating of painter's work the first consideration is the material to be painted, then the necessary preparatory work, and the time and paint materials, and every requisite for the proper execution of the work. There are some materials which require more time in preparation than others and their constituent elements and the manipulation of the same may produce a smoother surface and therefore the painting may be done with greater facility and be more effective. When we consider first the interior woodwork of a building, we must take note of the "knotting" and "puttying" required to be done on wood where there are knots and cracks or other blemishes. The time and material used in these processes have to enter into the calculations in estimating, also the accessibility for performing the work. In general, ordinary steps may be used for the painting of interiors of houses, but in churches, halls and public buildings sometimes extensive scaffolding has to be erected. Such should be made a separate item, and priced according to the time and material employed in erection and removing same. There is also greater time occupied in painting work at high altitudes, and where scaffolding is used, than in doing work upon the ground, as the more perilous the position the greater caution is to be exercised. The interior decorations require considerable time in their execution and according to the complex or simple character of the design and the dexterity with which it can be performed, will the

calculations be made in estimating. All exterior work, in general requires more time in execution, especially in roof work, where ladders are frequently to be removed and caution exercised. It depends greatly upon these important features for consideration, and the distance to be traveled to and from the job, that an approximate estimate may be obtained of the work to be executed.

Painting Yellow Pine Siding.—A siding of yellow pine is not in a very good condition to receive a coat of paint until it has been burned off with the torch. How many painters do this? Not many, likely. If it contains little or no pitch, then the burning off is not necessary, but when it is full of the treacherous stuff, then it must be removed, somehow, if the paint is to stay until you get your money for the job. The torch flame will draw out the sap or fat, as we sometimes call it, and then it can be scraped off with the ordinary scraper. Then prime with a thin paint made from equal parts of white lead and red lead.

How to Paint a Wall Pure White.—It will be white and stay white. It will bear repeated washings, too. Take zinc ground in oil, and beat up to a paste with benzine, and set aside until the mass settles and the liquid comes to the top. Then pour this off and mix with turpentine, adding a trifle of varnish to bind the paint. For the second coat wash the zinc twice and thin with turpentine only. Zinc in oil will yellow, just as white lead will, but by drawing the oil in either case you can get a very much whiter job. Use white japan dryers.

What is known as French putty is made by adding to boiling linseed oil about half its weight of umber, then slowly add dry white lead and whiting, half and half, thoroughly mixing the mass together.



COMPLETE 5-ROOM ALADDIN HOUSE \$298⁰⁰
DWELLING HOUSES, BARNs, SUMMER COTTAGES

Aladdin Knocked Down Houses are shipped everywhere. Every piece of material comes to you cut and fitted and ready to nail in place. No skilled labor required. Permanent, attractive, warm and lasting. Not portable. Price includes all lumber cut to fit, shingles, doors, windows, glass, patent plaster board, interior trim and finish, paint, nails, locks, hardware and complete instructions. Houses from 3 to 12 rooms. Save four profits by buying direct from mill. Send stamps for catalog W.



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Roof of Concrete.

P. B.—How can I build a roof of concrete on my house?

P. B. Ans.—The most commonly accepted method would be to cover the present roof with a layer of expanded metal or other mesh fabric, raised on nailing strips, lapping the fabric at the joints about 3 inches. On this place a layer of concrete about $1\frac{1}{2}$ inches thick, using one part of cement and two of coarse, well graded sand. The addition of some good waterproofing is advisable.

Wash for Etching Concrete.

C. H.—What chemical will etch the cement away from the aggregates?

C. H. Ans.—A wash composed of one part of muriatic acid to ten (10) parts of water, applied to the surface of concrete, is recommended. If the desired effect is not produced by the first application, make a second, without washing the first off. As soon as the etching has proceeded far enough, wash the acid solution off by free application of clean water.

Plastering Directly to Block Walls.

B. C.—Can plastering be applied directly to the concrete walls of a house, and give absolutely satisfactory results (assuming that the walls are of hollow construction, so as to be frost and moisture-proof)?

Would not stucco or rib-metal, applied to the outside of a monolithic building, give as permanent and satisfactory results as the building itself? On account of the rigidity of the building, there should be little danger of cracks developing through settlement or vibration.

B. C. Ans.—If your concrete blocks are frost and water proof there is nothing to prevent you from plastering directly on them and securing perfectly satisfactory results. The wall should be thoroughly wet with clean water before the application of plaster is made and the plaster

itself should be carefully protected from drying out in order to prevent the formation of surface cracks.

Stucco on rib-metal should certainly give satisfactory results so far as appearance is concerned and in point of permanence it would be quite as lasting as any other form of construction.

In all plaster and stucco work great care should be exercised to prevent the comparatively thin layer of concrete from drying too rapidly. This may be accomplished by drenching the wall frequently with water in a fine spray from a hose nozzle or by hanging in front of the walls frames carrying cloths which may be kept moist.

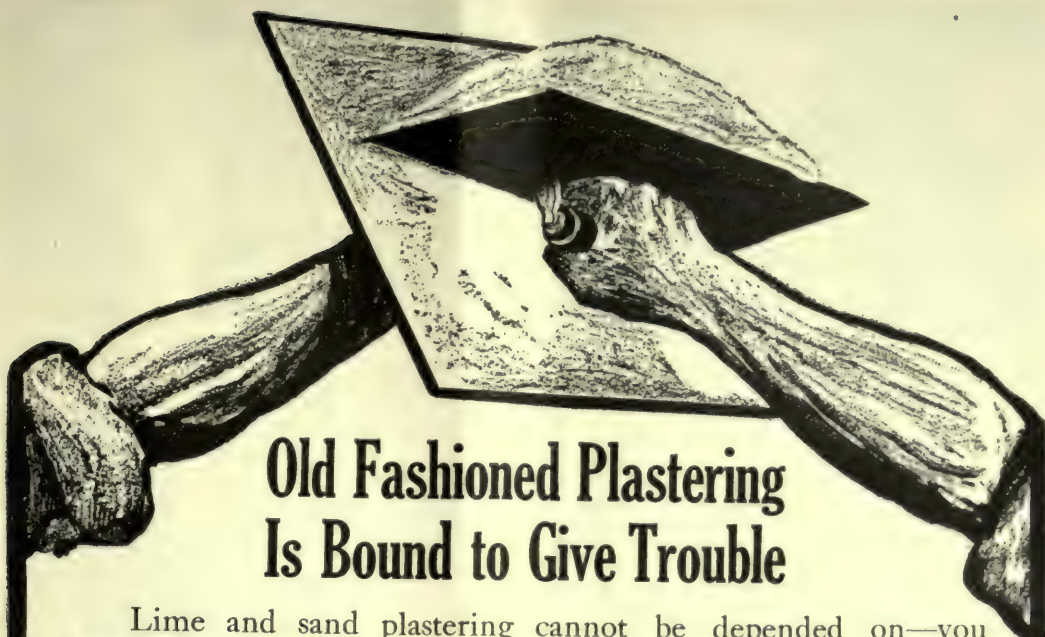
Paraffine and Beeswax for Waterproofing.

H. A. L.—Will one pound of paraffine and one-half pound of beeswax, dissolved in five gallons of gasoline, and applied with a brush or as a dip, make a good waterproofing compound? We know that it will make concrete composed of fine sand and cement absolutely waterproof, but how durable will it be? How will it stand the action of sun and weather?

H. A. L. Ans.—First and foremost, we are not very enthusiastic about fine sand in concrete. It is true that it makes a handsome finish, but unless there is distinction in the individual grains of sand, the mortar has a bad habit of looking as lifeless as raw clay. Use sand as coarse as you can.

While the combination of paraffine and beeswax will certainly seal the pores of concrete, it is not at all a permanent protection and we should advise against its use.

There are a number of excellent waterproofing compounds on the market, most of them based either on oleic or stearic acid compounds which you will



Old Fashioned Plastering Is Bound to Give Trouble

Lime and sand plastering cannot be depended on—you know that, but probably don't know the remedy.

Use a modern Gypsum Rock Plaster, and you will have no wall nor ceiling troubles—especially if you apply it over some good plaster board instead of fire trap wooden lath.

Climax Wood Mortar



Climax Wood Mortar is a G. R. P. quality brand of Gypsum Rock Plaster. It is scientifically prepared and makes a hard and safe wall. It is a non-conductor of heat and cold, safeguards the building against fire, and prevents those big repair bills that every owner dreads.

As very few understand the real facts about plastering we have published a little book that you can have for the asking. It tells you the truth in plain English about the difference between good and poor plastering, and no one interested in building should be without a copy.

Send for the book today. A postal card will do.

**Grand Rapids Plaster Company,
Grand Rapids, Mich.**

Makers of

**Climax Wood Mortar
Superior Wood Fibre Plaster**

**Hercules Wall Plaster
Gypsum Wall Plaster**

Sales Agents for Sackett Plaster Board.

Answers to Questions—Continued

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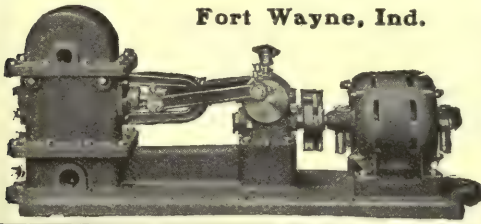
No matter where you live or how large your house or estate—whether it's on a hill or in a hollow—you can enjoy all the advantages of a perfect water works system at a very low cost. A

"Paul" Pump

placed in your barn or cellar and connected to the nearest water supply will give you an abundance of running water at ample pressure in the house, barn, anywhere you want it. Think of the convenience of such a system—no more tiresome carrying of water—perfect protection in case of fire—plenty of water for garden and dairy.

The "PAUL" Pump can be run by an electric motor or by a belt from any other power. So simple any one can tend it or it can be furnished to operate automatically if desired. Superior in every way to any other pump sold for this kind of work.

Tell us what you want to do, write for our booklet No. 12,021 telling why "Paul" Pumps are best, and we will advise you without charge just which one of our water supply systems is best suited to your needs.

Fort Wayne Engineering & Mfg. Co.**Fort Wayne, Ind.**

find much better suited for your purpose.

The most satisfactory way of securing thoroughly waterproof concrete, is to minimize the voids as much as possible. In common practice it is of course impossible to secure ideal conditions, but these should always be approached as closely as possible. The addition of some good waterproofing compound will have a certain effect of making your concrete impervious.

It will pay you to correspond with our advertisers along this line.

Your Home and its Decoration.

This volume contains 200 pages with twelve beautiful color plates and over one hundred and thirty duo-tone illustrations. The various sections of this important subject have been written by specialists and the entire work has been carried out under the direction of expert decorators. The work goes so much into the small details of what one should know as well as the large general features upon which the whole house is conceived. The rooms are considered individually, not only in their outlines and finishings, but also their furnishings, the illustrations of Oriental rugs being especially fine. Different architectural styles and periods are shown with details of outline and coloring. Fabrics and stenciling are treated effectively and side walls, ceilings and floors are presented in a practical and pleasing manner. The remodeling and redecorating features are nicely shown by before and after illustrations. What will appeal greatly to the housebuilder, is the illustrations in color and the specifications given to produce like effects. This is a work which should be in the hands of every one about to build or who is undertaking remodeling or redecorating of any kind. The cover is stamped in gold, with an inlaid color plate and the board binding is strong and serviceable. Price \$2.00. Postage 15c extra.

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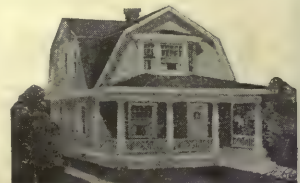
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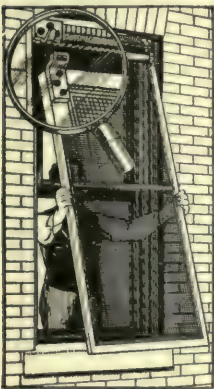
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ROOM



Warm Air Furnace Heating and Ventilating.

The paramount advantage of the warm air furnace is, if properly constructed and installed, that it supplies fresh, warm air.

Encyclopedia Americana says, in relation to impure air and consumption:

"Fresh air is kept out and the indoor air is fouled, sore throat, consumption and various lung troubles are therefore more common than they were years ago, while disease germs are afforded every opportunity to develop.

"Impure air undermines the health and changes the character of the blood. Suitable ventilation is the free admixture of outdoor air with that of the apartments, but so modified as to temperature and velocity of current as to prevent drafts, which are injurious, for they lower the temperature of the body and produce internal congestions."

Professor Thomas H. Huxley, on Physiology and Hygiene, says:

"Besides the various diseases traceable to the influence of the impure air, its effects are seen in a general depression of the tone of the system. Persons habitually occupying badly ventilated apartments show this in pallor of countenance, depraved appetite, feeble digestion and general weakness of body, and such are proverbially subject to attacks of acute disease.

"The general impairment of the powers of the body is doubtless often the signal for the development of inherited taints that under more favorable conditions might lie dormant throughout a long and vigorous life. Breathing an impure atmosphere injures the mind as well as the body. If the blood which is sent from the lungs to the rest of the system is imperfectly aerated no organ feels it more than the brain. Its immediate effect is to cloud the mind and depress its

energy, sharpness and readiness of memory are all impaired; the health of the mental and bodily functions, the spirit, temper, disposition, the correctness of judgment and brilliancy of the imagination depend directly upon pure air."

"The distinctive glory of the nineteenth century is that it distributes knowledge; furnace men should systematically apply certain knowledge and certain rules, considering them in their order, beginning with the cubical contents of rooms or building to be warmed, the proper system of arriving at glass and wall exposures in cubic feet.

Furnace Efficiency.—A rule for determining the size of furnace required considering the area and fire pot capacity.

Warm Air Piping and Registers.—The rules determining and governing the size required.

Limit of piping that may with safety to a system be applied to the furnace.

Air supply and ventilation, either by introduction of air from outside or by means of inside circulation.

Smoke pipe and chimney, the importance of which is infrequently considered.

Correct installation of the furnace, its advantageous operation and the proper fuel for best results.

The cubical contents or gross cubic feet in a room or building is determined by a simple and easy process, requiring the application of a scientific principle which takes into consideration these three elements, viz.: The actual cubic feet, the wall exposure and the glass exposure. Cubic feet, as we know, is obtained by multiplying the length of the room by its width and by multiplying this product by the clear height of the ceiling.

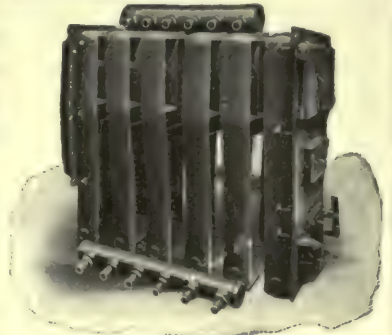
Exposed wall surface is considered by multiplying the net square feet of exposed wall by seven and one-half, be-

The "Loose-Leaf" Principle Applied to Heating

"Sectional boilers" is merely a term of the heating trade. It means that boilers are *made* in sections; but, as commonly used, it does not mean that you, the user, get the benefit of the sectional construction.

We have perfected a *truly sectional* boiler—as truly sectional as a loose-leaf ledger or a sectional bookcase.

A boiler so truly sectional that you can add sections and take away sections; you can cut out sections, without tearing down, without a day's delay or loss of heat.



There are many reasons why other so-called sectional boilers are *not* truly sectional.

In the first place, these so-called sectional boilers are sectional only *above* the ashpit. The sections are perched on a separate base, which is *not* sectional.

To add sections or to take them away, you must get a new base—you must rebuild the whole boiler from the ground up.

The "RICHMOND" boiler is sectional from bottom to top.

It needs no separate base, because each section extends clear to the ground.

You can add sections, replace sections, or take them away without tearing down the boiler, or buying new base or ashpit parts.

The sections of a "RICHMOND" boiler are *screwed together*.

While the sections of so-called sectional boilers are joined with push nipples.

If a boiler with push nipple joints gives out you take out the fire and tear down the boiler. There is no alternative. There can be no heat while new sections are being shipped.

Cutting Out Sections

But with the "RICHMOND" sectional boiler, you can plug up the damaged section—and keep on heating.

We know of cases where sections of "RICHMOND" boilers have for one reason or another been "cut out" and plugged and the boiler made to give service, day and night, till the summer came.

The "RICHMOND" sectional boiler is stronger than other sectional boilers, without adding weight—just as a single casting must always be stronger, more rigid than two castings joined together.

Yet the sectional feature is but one of countless superiorities which you will find embodied in the "RICHMOND" system.

"RICHMOND" Boilers — Radiators

From ash-pit to radiator, the "RICHMOND" system embodies the newest and best that is known in heating. It is the crystallization of a hundred ingenuities—a hundred economies. It is adaptable to a three-room bungalow or a mammoth palace—to steam heat—hot water heat—direct or indirect.

Find Out For Yourself

If you are interested in heating any building, large or small, write us. Ask for Catalog 280. Learn for yourself about this perfect system which is so economical of fuel that it saves its own cost and pays its own maintenance.

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Cameron Schroth Cameron Co.

Western Distributors for
"RICHMOND" Boilers and Radiators

280 Michigan Street
Chicago

"RICHMOND" Bath Tubs—Lavatories—Sinks

If you are about to build, investigate, too, the "RICHMOND" line of enameled ware. Everything in enameled ware, from kitchen sinks to bath

tubs, which bears the name "RICHMOND" is the best that can be made, less expensive in the beginning and in the end.

THE McCRUM-HOWELL CO.

280 Terminal Building
Park Ave. and 41st St., New York

Two factories at Uniontown, Pa.—One at Norwich, Conn.

Heating and Plumbing—Continued

cause one square foot of exposed wall is equal in cooling effect to seven and one-half cubic feet of air.

Exposed glass surface is considered by multiplying the square feet of exposed glass by seventy-five, because one square foot of exposed glass is equal in cooling effect to seventy-five cubic feet of air, and these three elements, namely, the cubic feet, the exposed net wall surface and the exposed glass surface, constitute gross cubic feet or equivalent glass surface, because by the process we have reduced the wall and glass exposures to their equal in cubic feet, and this gives us a correct basis (equivalent glass surface or gross cubic feet) to work on for the systematic application of scientific principles that enter into and become a part of the scientific method of heating by a warm air furnace system.

Outside doors should be considered and counted as exposed glass surface, because they are in cooling effect the same as a window.

Size of Furnace Pipes.

Hot air pipes from furnaces are usually proportioned according to the cubical contents of the rooms they supply. To find the area of the pipe in square inches that should supply any room: For the first floor divide the volume of the room in cubic feet by 30 for rooms having only a moderate exposure, or by 25 to 20 for rooms having great exposure. For second floor rooms divide by 35 to 25 and for third floor rooms by 40 to 30 according to exposure.

A more accurate rule is this one: For first floor rooms add the total glass sur-

face and one-fourth the area of the exposed walls in square feet, and multiply the total by 1.5; the product is the proper area of pipe in square inches. For second floor rooms multiply by 1 to 1.25 according to the exposure, and for third floor rooms multiply by .75 to 1.

In case there are many turns and elbows in a pipe the area should be increased as much efficiency is lost in turning. All pipes should have an up grade from the furnace of at least one inch to a foot run. All pipes and stacks (wall pipes) should be wrapped with asbestos so as to save heat and create better draft.

Be sure and get a furnace large enough. This depends upon probable loss of heat by radiation and ventilation. If too small the furnace is burned out in a fruitless endeavor to make it heat the house in extreme weather. When of good capacity a moderate fire is sufficient. Saving on size of furnace is a dead loss later.

Enameled Clay Ware for the Bathroom.

A suggestion of interest with reference to the bathroom appears in the Clay Worker, urging a wider use of clay ware. It suggests that not only the bath tub and sanitary ware but also tiling for walls and for the floors should be of clay ware. The ideal bathroom is one which may be made up almost exclusively of clay products, with the bare exception of the piping and metal work. It has been thoroughly demonstrated that, from a sanitary standpoint, nothing equals the enameled clay ware, and gradually a discriminating public is taking notice of this fact and is showing a favorable disposition to use it almost exclusively.

By and by we may see the day when there will be included in almost every city ordinance a requirement for bathrooms. With things tending this way see what it means in the way of increased requirements for bathroom material. This branch of the trade should present openings for further developments that will not only keep the present industries manufacturing such products hustling, but will make room for a number of new ones without in any way endangering the market. It would seem to be partly a matter for general distribution of industries, provided the material for the work can be had.



MALLORY'S Standard Shutter Worker

The only practical device to open and close the Shutters without raising windows or disturbing screens.

Can be applied to old or new houses, whether brick, stone or frame, and will hold the blind firm in any position.

Perfectly burglar proof.

Send for Illustrated Circular if your hardware dealer does not keep them, to

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AN ALDINE FIREPLACE

Will Save You 60% of Your
FUEL BILL

And Give You Four Times as Much Heat as
a Common Grate

There is a great difference between a common grate and an ALDINE fireplace. A common grate is simply an opening in a chimney where a fire can be built. 85% of the heat is wasted up the chimney, because it is a direct draft.

The Aldine Fireplace is really an indirect draft stove in fireplace form set into a chimney. 85% of the heat is thrown out into the room, only 15% is wasted up the chimney and one scuttle of coal is enough to give a cherry red fire for 24 hours.

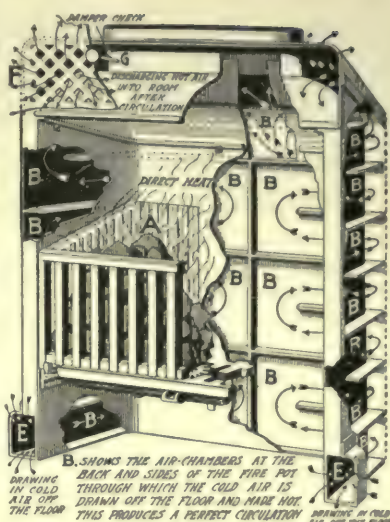
The expense and trouble of a furnace fire is saved six weeks in Spring and Fall if there is an ALDINE in the house.

You pay no more for this wonderful ALDINE than for any first class direct draft grate. It can be slipped in any chimney opening, no special chimney construction is necessary; no

pipe to connect; in standard size with big fire pot; made in seven patterns.

Send for our free booklet, and see how an ALDINE fireplace is suited to your particular conditions and requirements.

The ALDINE is guaranteed to do as we claim or your money back. 50,000 ALDINES now in satisfactory use.



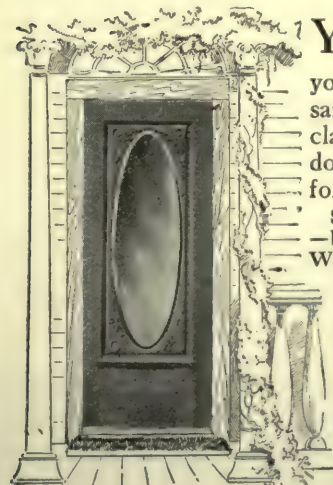
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Oak Veneer Front Doors At the Price of Common Doors



YES, it's a fact!

We can quote you just about the same prices on first-class oak veneered doors that you pay for pine doors.

Strictly new designs—beautifully grained Wisconsin Red Oak, thoroughly seasoned stock—handsome carvings, perfect workmanship.

Glazed with plain glass or beveled plate. All made with wide stiles.

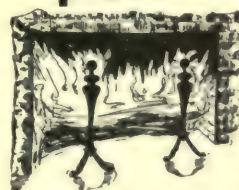
Catalog 107J gives you all the

facts and illustrations; 68 newest designs of oak veneered and cottage front doors. Write for the catalog and price list if you haven't a copy.

The Foster-Munger Co. Chicago, U.S.A.
AMERICA'S GREATEST SASH & DOOR HOUSE

Now is the best season for Wood Carpet and Parquetry Flooring. Catalog 108J, free for the asking, shows our latest designs.

If You Have A Fire- place



You can secure four times the usual amount of heat by using a

Jackson Ventilating Grate

These grates each heat two or more rooms on one or different floors in severest weather, and they will heat an entire residence with two-thirds the fuel of a furnace.

IF YOU HAVE NO FIREPLACE you can secure the effect of an ordinary open grate by the use of a MAYFLOWER OPEN FRANKLIN. Many people use them in preference to the ordinary open fireplace.

CATALOG "K" shows the Ventilating Grate. Send for this, and also for catalogues of Mantels, Franklins, Andirons, or anything else you wish in the fireplace line.

Edwin A. Jackson & Bro.
25 Beckman St., N. Y.

SPLINTERS AND SHAVINGS

Revised Rules for Grading Oak Flooring.

The grades of Oak Flooring shall be known as Clear, Sappy Clear, Select, No 1 Common and Factory.

Quarter-Sawed.

Clear.—Shall have one face practically free of defects, except $\frac{3}{8}$ of an inch of bright sap; the question of color shall not be considered; lengths in this grade to be 2 to 16 feet, not to exceed 10 per cent under 4 feet.

Sappy Clear.—Shall have one face practically free of defects, but will admit unlimited bright sap. The question of color shall not be considered. Lengths in this grade to be 1 to 16 feet.

Plain-Sawed.

Clear.—Shall have one face practically free of defects, except $\frac{3}{8}$ of an inch of bright sap; the question of color shall not be considered; lengths in this grade to be 2 to 16 feet, not to exceed 10 per cent under 4 feet.

Select.—May contain bright sap, and will admit pin-worm holes, slight imperfections in dressing; or a small tight knot, not to exceed 1 to every 3 feet in length; lengths to be 1 to 16 feet.

No. 1 Common.—Shall be of such nature as will make and lay a sound floor without cutting. Lengths 1 to 16 feet.

Factory.—May contain every character of defects but will lay a serviceable floor with some cutting. Lengths 1 to 16 feet.

Modern perfected methods of manufacturing Hardwood Flooring produce a large percentage of shorter lengths, but practical use has demonstrated that the combined lengths make a floor equally as good as all long lengths.

Civil Service Examination.

The United States Civil Service Commission announces an examination on July 27-28, 1910, to secure eligibles from which to make certification to fill a vacancy in the position of topographic draftsman (male), Coast and Geodetic Survey, Washington, D. C., \$900 per annum, and vacancies requiring similar qualifications as they may occur in any branch of the

service, unless it shall be decided in the interest of the service to fill the vacancy by reinstatement, transfer, or promotion.

The salary of the position of topographic draftsman ranges usually from \$1,000 to \$1,500 per annum, and for copyist topographic draftsman from \$900 to \$1,500 per annum.

Both men and women will be admitted to this examination.

Applicants should at once apply to the United States Civil Service Commission, Washington, D. C., for application Form 1312. No application will be accepted unless properly executed and filed with the Commission at Washington. In applying for this examination the exact title as given at the head of this announcement should be used in the application.

University of Wisconsin Announces Special Instruction in Saving Timbers, Running Wood-Working Machines, and Using Waste Wood.

Madison, Wis., June 15.—The first courses of instruction in wood technology and the mechanical engineering of wood-working plants ever offered at the University of Wisconsin are announced for the coming year, as a result of the co-operation of the college of engineering with the new U. S. Forest Products Laboratory at the university.

The three phases of the problem of saving timbers and using all the present waste from the lumbering and wood manufacturing industries will be considered in the new lectures and laboratory practice by the students, including special study of the physical and chemical properties of wood; of preserving and utilizing not only the timbers but the stumps, small branches, bark, sawdust, and all the waste bits; and of the mechanical means of transforming standing timbers into commercial products.

Government Experts to Give Four Courses.

Four courses in wood distillation, wood preservation, the chemical constituents, and the physical properties of wood will be given by the staff of government experts in charge of the laboratory. A fifth course in wood manufacturing machinery will be given by Prof. Robert M. Keown of the engineering college.

In the course on the properties of wood, the study will be mainly of the elementary structure of different species and its effect on the value of woods for use in various arts and industries. Methods of testing woods and conditioning them will also be shown in the laboratory demonstrations. The course will be given during the first half of the first semester.

The chemical constituents and fibers of

Splinters and Shavings—Continued

wood, with reference to the uses made of the material in art and industry, will form the subject matter of the course to be given the second half of the first semester.

Hardwood and Softwood for Turpentine and Alcohol.

Hardwood and softwood will be studied and compared as to their use in distilling alcohol and producing turpentine and other materials in a course to be given in the first half of the second semester. All of the basic principles, as well as the processes and products of such distillation will be taught, and the students will have an opportunity to make a personal study of the government's investigations in ways and means of using all the waste products of logging, lumbering, and wood manufacturing, amounting altogether to two-thirds of every tree cut down.

To Save Timbers From Pests.

How to save timbers, especially those in mines and on the water front, from animal and fungous pests, will be the problem on which a course in wood preservatives will work. The students will compare the resistance of different woods, their fibers and the conditions of deterioration, and will be shown the different preservative processes in the laboratory, including both those in which the timbers are given surface applications and those in which the aseptics are forced into the fibers.

All the machinery and methods used in log-

ging and in wood manufacture with the designing of wood working plants will be taught by Prof. Keown during the second semester in his course in wood manufacturing machinery.

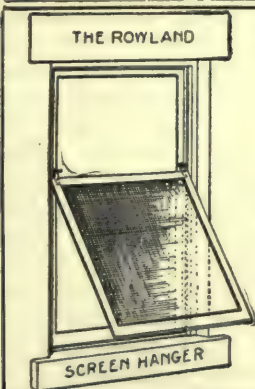
In addition, advanced research work may be done by students who are prepared for it, in the government laboratory under the supervision of the experts in charge.

New Map Shows How State is Made.

Madison, Wis., June 15.—A new model map of the state of Wisconsin, showing the topography, the geology, drainage, railroads, cities and counties, has been made in relief by the State Geological and Natural History Survey, with the assistance of the geology department of the University of Wisconsin, for the use of the schools, libraries and other public institutions of the state. The map, which is 49 by 45 inches, on a scale of 7 miles to the inch, is made of a mixture of plaster of Paris and papiermache reinforced with steel netting, and is fastened in a strong, deep wooden frame.

Common Sense About Interiors.

This is the title of an attractive little booklet in colors, telling of wood finishes in various rooms in different woods, of the floor finishes and wood to use and finishes for wall surfaces. Methods of application and what to use are discussed and further exemplified by beautiful illustrations. Address the Lowe Brothers Company, Dayton, Ohio.

**Mr. Builder**

"Old way" with hinges, spring butts or slides?

It may be a small item, but as the screening of your house is about the last thing to be done, you are usually ready to "economize on screens."

Use Rowland Hangers

and save a great deal of the old method expense — You can still come within your "appropriation for screens" and have not economized at the EXPENSE OF QUALITY.

Rowlands ALWAYS give satisfaction. \$1.00 buys complete fixtures for 12 screens, of any Hardware or Builders supply dealer, or

THE ROWLAND MANUFACTURING CO.

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THE CELEBRATED FURMAN BOILERS

Valuable Catalogue on Modern Steam and Hot Water Heating, mailed free. Address

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HOME OFFICE AND WORKS
5 NORTH ST. - - GENEVA, NEW YORK

As an Investment, Furman Boilers return Large Dividends in Improved Health, Increased Comfort and Fuel Saved.

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BOOK NOTICES

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By Rex Beach.

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KEITH'S MAGAZINE

ON HOME BUILDING

WITH WHICH IS CONSOLIDATED

The Journal of Modern Construction

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Contents for September

	Page
EDITORIAL - - - - -	146
AN EXAMPLE OF ITALIAN ARCHITECTURE IN AMERICA - -	149
"CASTLES IN THE AIR" - - - - -	155
A HOME OF UNIQUE IDEAS - - - - -	157
TERRA COTTA TILE AND CONCRETE - - - - -	159
THE EXTREMELY LOW BUNGALOW - - - - -	165
DESIGNS FOR THE HOME-BUILDER - - - - -	168

DEPARTMENTS

DECORATION AND FURNISHING - - - - -	180
ANSWERS TO QUESTIONS ON INTERIOR DECORATION - -	186
HOUSEHOLD ECONOMICS - - - - -	190
TABLE CHAT - - - - -	194
CEMENT - - - - -	198
PAINTING AND FINISHING - - - - -	204
HEATING AND PLUMBING - - - - -	208
SPLINTERS AND SHAVINGS - - - - -	212
GLIMPSES OF BOOKS - - - - -	216

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SHOWING LUXURIANCE OF TREES AND FLOWERS TO THE SOUTH OF THE VILLA

KEITH'S MAGAZINE

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SEPTEMBER, 1910

No. 3



ITALIAN VILLA FACING LAWN TERRACE

An Example of Italian Architecture in America

By Helen Lukens Gaut

A \$200,000 Italian villa is as far beyond the reach of most of us as was Halley's comet. We gaze at it with awe and admiration, just as we did at the comet, wishing we might possess, yet doubting if possession would really be desirable. It might prove beautiful, enlivening and alluring, but it might also prove a bit troublesome. After all, perhaps it is best to look at splendid things from a distance, than to have the

closeness, the care and responsibility that comes with ownership.

The magnificent example of Italian architecture, as well as of Italian gardening, shown in the accompanying illustrations, is located in Southern California, a locality noted for its wealth of beautiful and original homes. The villa alone cost over \$200,000, while the gardens cost as much more. It is the height of formal elegance, and the casual observer is in-

variably in doubt as to his actual impression, wondering whether it is fascination or awe that holds his attention. The elevation on which the villa stands is a slightly one, overlooking the rosy San Gabriel Valley with its mile upon mile of orange groves and flower gardens, and also embracing a far-reaching view of the purple-shadowed Sierra Madre range, as well as the San Bernardino and San Jacinto ranges, the highest crests of which are crowned with snow more than half the year in strange contrast to the perpetual blooming and fruiting verdure at their base.

The grounds surrounding the villa consist of approximately two and one-half acres, one half lying smooth and flat, the other half an abrupt hillside, making possible on the east several splendid lawn terraces, and affording place for the rich white marble stairway that leads from the villa to the beautiful fountain on the lower terrace. The lawns are as smooth

and perfectly woven as silk-velvet carpets. Mischievous weeds, gophers, and other garden pests have no privileges here, for there are seven watchful gardeners that nip their frolics and their heads before they have a chance to drop a seed or sharpen a tooth.

An elegant substantial wall of reinforced concrete surrounds the premises. At the lower edge of the terraces, this wall is surmounted at regular intervals by huge ball-shaped urns, also of reinforced concrete. These are filled with semi-tropical plants and trailing vines and are wonderfully effective. The top lines of the side walls of the garden follow the graceful rise and fall of the terraces, and on these walls, the concrete urns are also conspicuous. Above and back of the terraces, the concrete wall shows at intervals handsome copings of black wrought iron fencing, so high, expectant thieves and impertinent boys would have difficulty in climbing it. The



NORTH VIEW OF VILLA SHOWING CARRIAGE AND AUTO ENTRANCE

irregular lines of the fence show much of grace, and help to emphasize a home theme, the exterior of which is entirely Italian.

In speaking of this house and this garden, one can't legitimately mention a back or a front yard, for on all four sides there is nothing to intimate other than a front yard. All the outside doors and loggias of the villa appear to be front doors and loggias. In fact the entire place is a healthy beauty spot, apparently undiseased with the usual domestic garbage cans and clothes lines. On the level ground above the terraces on the west side of the villa is a sunken garden covering close to an acre in extent.

A pedestal wall of cement, with upper and lower rails, encloses this sunken garden on two sides. The end next the villa is walled with reinforced concrete except where entrance is given by means of a beautiful flight of white stairs. Two wide cement walks, running parallel, extend through the labyrinth of flowers and low shrubs that luxuriate in the lap of the garden to the further end, which terminates in a pergola of great charm. The outer supports of this pergola are



GATE ON SOUTHEAST CORNER OF GROUNDS

huge pillars of reinforced concrete, while the inner supports are pure white fluted columns each with a base and a capital, the latter resting against and holding the heavy rough timbers that form the roof. These have been painted dark brown and contrast admirably with the white pillars and the rich living colors of the garden.



THE TERRACES SLOPE TO A PUBLIC STREET, ACCROSS WHICH IS A BEAUTIFUL FORMAL GARDEN, PARTLY SUNKEN, ADJOINING THE GARAGE AND GARDENERS' HOUSE

Here are three flights of white steps leading from the sunken garden to the beautiful lawns above, which surround it to a considerable width on all sides, and really form its setting. Blossoming vines are clamboring merrily over the pergola columns, and are rapidly finding their way along and over the walls. Formal trees and shrubs in huge urns and tubs are scattered throughout the grounds, and give an additional touch of dignity and elegance.

Three imposing black wrought-iron gates, one for carriages and autos, the other for pedestrians, lead into the grounds from the three outside thoroughfares, for the location is really that of a double corner. On either side of the auto and carriage entrance are cement monuments, each topped with a black iron lantern of attractive design. The double iron gate is twelve feet high. On the southeast corner of the grounds, shaded

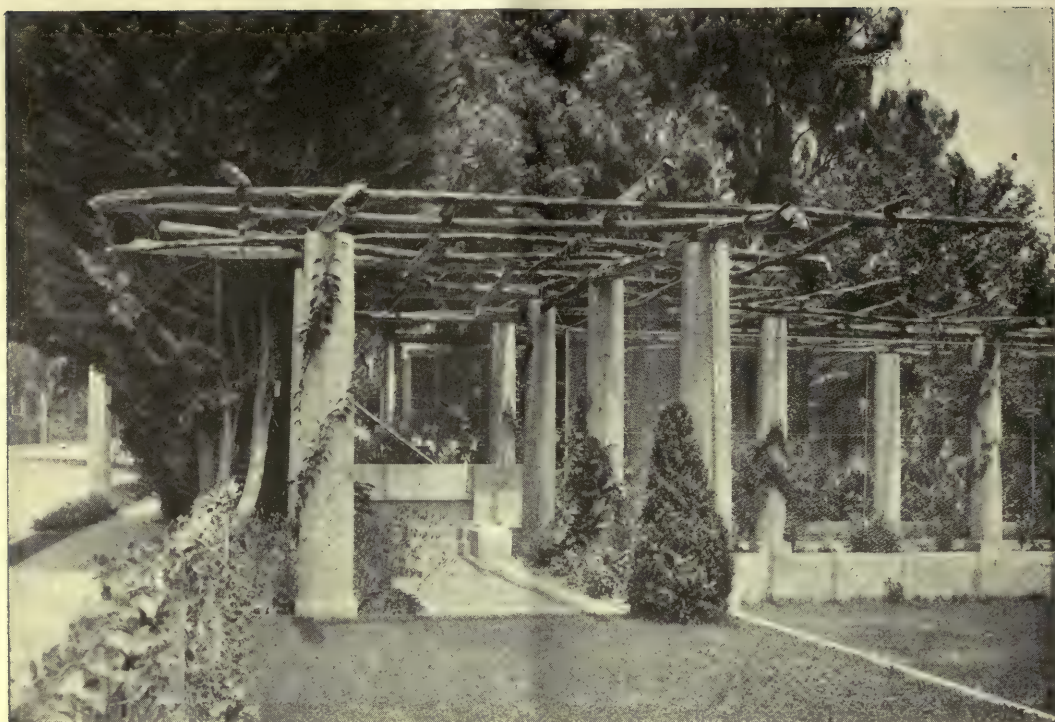
by a lacey-foliaged pepper tree, is a gateway of exceptionally beautiful design, leading from the public highway into the sunken gardens. Outside the grounds, between the wall and the public sidewalk, is a two foot parking planted with rare ferns and pink begonias, the latter usually in bloom during the entire year. The exterior of the villa is a splendid example of formal elegance. The side walls are of grey-white plaster over steel lath. Under the eaves is an elaborate plaster frieze. The design of the balcony rails corresponds with that of the wall forming the sides of the sunken garden. Numerous plaster flower boxes and shelves, loaded with bloom, add a happy touch of color and life to the dignified walls. The roof is of crimson tiles, the chimneys are of reinforced concrete over brick. The floor of the loggia overlooking the terraces, the pillars supporting the roof above, and the steps are all of white marble.



VIEW OF SUNKEN GARDEN, SHOWING PERGOLA AT WEST END



CEMENT POSTS TOPPED WITH FLOWER URNS



A CORNER OF THE BEAUTIFUL GARDEN ADJOINING THE GARAGE AND GARDENERS' HOUSES

While the exterior of the house is rarely beautiful, the interior has many unusual and charming features. In what would be the basement in most houses is the most interesting room in the villa, a room designed to imitate an old English kitchen. This room is 30 by 70. Its merriest and best feature is an immense fireplace, one large enough for a man to walk into. This fireplace has about it all the old-fashioned contrivances such as a brick oven, crane, iron kettles, andirons, etc. In various parts of the room are corn poppers, a churn, a spinning wheel, a cider mill, a grandfather's clock, etc. This room is finished in perfect imitation of houses built in earlier days. The ceiling is beamed with rough hewn logs, and the balance of the room corresponds. There are numerous old-style easy chairs, also a piano. It is the family custom to serve Sunday night suppers in this room, and friends included in these happy informal affairs consider themselves most

fortunate. Joining this old English kitchen is a large billiard room also boasting a huge fireplace. On the next floor above are the more conventional rooms. The reception hall is 30 by 30 and has a beamed ceiling. On the left of this is the living room, finished in solid mahogany. On the right is a raised platform, 18 by 40, built and used for a music room. Off this is the 30 by 30 dining room handsomely finished in oriental woods, and off this the butler's pantry and kitchen. One of the most delightful and unique features of the house is the plunge, containing a swimming tank 20 by 40. On the sides are dressing rooms for men and women. Floor and walls of this room are of white tile. Here many jolly bathing parties are enjoyed by the family and their intimate friends. On the third floor there is a large living room, six spacious chambers, also dressing rooms, baths, clothes closets and porches.

“Castles in the Air”

THE VALUE OF DUE CONSIDERATION AT THIS STAGE OF HOME-BUILDING.—THE HOUSE AND IMPROVEMENTS IN RELATION TO THE LOT

By H. Edward Walker

THE location of the house upon the lot is a very important matter depending upon the lot itself, the kind and size of house and the position of houses already built. If the house is the first one to be built in the block, it should be placed as far back from the street as one dares to put it, leaving a good expanse of lawn in front and only what is actually needed in the rear. This is a matter about which people will differ, so a distance should be selected that will probably be acceptable to all future builders in the block.

Unless the houses are built according to some well devised plan of mutual relation, with a view of beautifying the situation as a whole, the houses should conform to the building line established by the first comers.

Nothing makes a block so unsightly as to see the houses built out of line with each other, often no particular scheme of arrangement. If the homebuilder would realize his responsibility and his duty toward his neighbor to a greater extent, how much more beautiful our streets would be. Instead of houses huddled together upon the front of the lot, our homes would be set back a dignified and impressive distance, giving even a small cottage an air of exclusiveness, though the lots were narrow and the adjoining houses necessarily close.

More room would be available for lawn, flowers and shrubbery. The back

yard is nearly always too large and few people have all they might have in it, making it doubly absurd to reserve so much space in the rear, at the expense of that in front. In a well appointed back yard there should be space for a small secluded area, covered with vines adjacent to the house, to afford privacy with the advantage of outdoor air and sunlight; a space for drying clothes, a vegetable garden, and garage or shed. A poultry yard may be provided, but is not always a wise use of a city lot. Fuel is best kept in the basement rather than outside where its presence will be an eyesore. Some will require a barn in place of a garage but they will be fewer each year. All these different interests can be located harmoniously upon a moderate amount of ground, much less than is ordinarily devoted to them, leaving ample space in front for beautiful landscape effects. Let the reader give thought to these matters and influence others to work in harmony for a larger view of neighborhood questions, to the end that each one keeps in mind the good of the whole community and not that of a single lot.

The lot should be considered as to its elevation, grades or slope as some term it, its exposure, points of compass and sunlight and the trees upon it. Natural beauties should be retained as much as possible. It is not necessary to reduce everything to an interesting dead level.

A picturesque house should have a setting in keeping and the lot should be studied to see how little rather than how much it must be changed to best meet the requirements. Avoid cutting down trees. A tree is a friend, a protector, and a thing of beauty, one of the most valuable things on the lot. Any little clump of trees or bushes give life and color to the summer landscape and an added value to even the unimproved lot.

It sometimes happens that there are a few large stones that will work nicely into the general scheme of improvement later on. All natural things should be regarded as raw material and carefully preserved. They will work nicely into the landscape when the time comes. The Japanese use a great many things in producing those wonderful little gardens that we have for centuries carefully eliminated from the picture as being distasteful and of no artistic value, yet in their hands their possibilities seem endless. A lot that is well above grade is not as easily managed as one nearer the street level, yet there is a great charm about the home built on such an elevation. The approach may be more difficult to harmonize but the money spent in inadvised grading added to what is ordinarily required, will go far to pay for something pleasing. If a retaining wall is necessary its character should be studied out before beginning the work, to produce the most satisfactory results. As one stands on the unimproved lot, it is difficult to look ahead into the future when all shall be finished and plants well grown. Few of us are sufficiently imaginative to do this, yet the more thought and care that can be given to all these items in the beginning, the more successful the outcome will be. Decide first what the requirements are to be as to garden, clothes yard, poultry, garage, etc.

If some things are contemplated that are to be installed later their location should be studied out as part of the whole arrangement, eliminating confusion later when their construction is undertaken. The position of a lily pond, a pergola or a tennis court may be a difficult matter to adjust if they are not considered till all other matters have been placed in position.

The most practical way of going about it is to make a drawing of the lot at a convenient scale, about $\frac{1}{8}$ of an inch to equal each foot. Estimate the amount of space required for each item to be located including the house. Having determined this from various sources, cut the outline of each, as near as can be determined, from a card and arrange them upon the drawing. The proportions of some will probably have to be changed to make them fit the space but a little adjustment will bring them all in harmony. The walks about the lot should be considered at this time, that each part may be easily reached and located in the most convenient relation to its neighbors. Some things should be screened from view and the position of shrubbery may now be determined for this purpose. Locations of clumps and plantings are important even now, not that they can be advantageously placed at present, but they enter into the scheme eventually and should be considered early.

To locate the house first, somewhere near the center of the lot, and other things in a hit or miss manner afterwards, is a common every day method of procedure, but is seldom satisfactory.

Not everyone can afford a landscape gardener to lay out his lot but we can all make an effort to produce the best results by careful preparation and attention to details.

A Home of Unique Ideas

By Edith Everett



A PLEASING CONTRAST OF STONE PIERS AND CHIMNEYS WITH STAINED WOODWORK

IN this era of delightful small houses, of novel homes where comfort prevails, the individuality of the artistic person shows most clearly in his home. To build a comfortable house, is not a hard task, but to construct a pleasant, delightful abode, where each thing reflects the taste of the owner, where beauty and comfort show in each detail, is a task that many are unable to accomplish.

But here and there is to be found a house that cries out for notice, that, to the careful observer appears, "just right." Located in the suburbs of one of Iowa's best towns is this picturesque little bungalow, a view of which is shown. When I first discovered this house I was much impressed by it, it appealed to me

as the cleverest moderate sized house I had ever seen. Even at a distance the striking effect of the odd stone pillars and stone chimneys, contrasting with the dark wood of the house, attracts the attention and elicits the admiration of the visitor.

The yard which surrounds the house is triangular in shape. The house faces the hypotenuse of the triangle. A cypress hedge encloses the yard.

Upon nearer approach the visitor notes more closely the beautiful veranda, the sloping roof supported by its four rough stone pillars,—the odd stone wall upon which stand flower pots filled with bloom—and above the veranda the little balcony with its flower boxes brilliant with red geraniums. Each feature indicates that this is no conventional house.

The broad dormer window, opening onto the square roof porch, is the next feature to proclaim the original mind which designed this house.

The exterior with its delightful front piazza, its broad back porch, its huge chimneys, gives promise of interior delights, and the promise is reality.

Lifting the unique brass knocker, one passes through the heavy door and stands within a square hall,—a broad doorway gives a view of the dining-room beyond. At the south side of the hall is the large living-room—a broad window at the front and small ones on the side give enough light, but at the back the whole end is glass; for here is a small conservatory. Several steps lead up to this part of the living-room. Here are ten feet of space—three sides enclosed by glass, the fourth side open, and supported by pillars. The glass gives light for the whole room, while it shelters a little bower of beauty. Birch bark boxes line the walls and in them bloom many flowers. This little open conservatory adds much to the charm of the large living-room. The other noticeable feature of this delightful living-room is the huge fireplace, where a whole tree can burn—just the great old-fashioned fireplace, yet modern enough to be both comfortable and delightful; for this is a well-built fireplace.

From both living-room and hall are entrances to the dining-room. The whole back of the dining-room is composed of huge windows—again we note plenty of light.

The small wing shown in the picture contains the kitchen, pantry and ice box. There are shelves between kitchen and pantry, and back of the pantry an ice box is built in the wall so that it can be filled from without, where a small back porch has been conveniently placed; the main back porch is separate from this little porch. The kitchen arrangements are particularly perfect, as the kitchen is so well equipped and separate from the remainder of the house. A few other features of the downstairs are worth

mentioning. The back stairway leads from the kitchen to the maid's apartments above. The ornamental front stairway, opening from the hall, has two landings. All the doors have the old-fashioned knockers. The whole house is most beautifully finished in hardwood.

Above stairs are several unique features—first the maid's apartments. These are over the kitchen and thus are separate from the rest of the house. For this lucky maid there is a tiny sitting room, a bedroom and a bath.

The main part of the house has a large front bedroom; this extends across the whole front of the house. Then there are two smaller bedrooms, a hall and a bathroom. From the front bedroom a door opens into the bathroom. There is also a door from hall to bathroom, as this is at the south of the hall. There is a square bedroom over the conservatory part of the living-room.

All the rooms are well lighted. All the smaller windows are odd shaped, small paned windows. The side view of the house shows that even the hall has a side window tucked in the little space. From this view also, the screened-in kitchen porch can be seen.

While the side view of the house shows the little kitchen porch, the front view gives a glimpse of the large back veranda. The little roof protection by it, is for the glass part of the conservatory.

Which is the best thing about this house is hard to decide. Some delight most in the odd features,—the old-fashioned knockers of rare workmanship, and the beautiful entrance,—some declare the completeness of the house, the clever arrangement of servant's quarters the best thing about the house; while to others the artistic beauty of the whole appeals most.

At any rate this picturesque home, located in the outskirts of Sioux City, surrounded by its triangular yard, and well kept hedge with its beautiful green terrace and smooth cement walks, tells its story of completeness and comfort, of artistic design and quiet beauty.

Terra Cotta Tile and Concrete

THEIR USE AS FIREPROOFING MATERIALS
IN THE CONSTRUCTION OF THE HOME



RESIDENCE AT MT. VERNON, N. Y. WALLS OF TERRA COTTA TILE WITH CEMENT STUCCO FINISH

S. A. GUTTENBERG, Architect

THE age of a nation or a country may be determined largely by the permanent character of the buildings erected. Reference is not made especially to the buildings of antiquity, but to those of a country such as ours which had, or did have until a few years ago, a "frontier."

Localities where towns were built in a night and cities crudely built, were but the matter of months. A short flight of memory takes many of us back to scenes in our proud western cities, where the tent and the shack stood upon the

present site of the metropolitan skyscraper. In a few instances the wooden building still stands awaiting the relentless march of the new order of things. Progress is everywhere. The tendency is to build better and better, laws are more stringent, a wise policy furthers permanency of construction as being the cheapest although the initial cost is greater.

Materials are of a kind better suited to modern conditions and are often practically indestructible. The great disasters by fire and earthquake have impressed themselves upon the public mind and the

present day sees more attention given to strength and fire resistance than ever before. Older forms of fireproof construction have been confined to buildings of the larger order and in many cases have proved defective because of the inflammable nature of their contents, errors in construction, and improper work. The materials have often been of the best but the fault was in the assembling of them.

But recent years have demonstrated the utility of concrete as a building material of the first class. In developing new materials a mistake is often made in being too ready to discard the old. It has been found that terra cotta tile, so long used for fireproofing purposes, is of great service in combination with concrete beams in the construction of floors,

while for exterior and interior walls of certain classes of buildings, it is amply strong and answers every purpose. Its lightness recommends it in the floor and its adaptability to artistic architectural expression, in the walls.

The advance in lumber prices during the past decade has been gradually bringing these materials into a financial zone of competitive activity and with it comes the thought, why not make our dwellings fireproof. These are among the greatest questions before any people, where shall we live, in what kind of a house and what must we pay for it? What shall it look like, of what materials shall it be built and what arrangement will best suit our needs?

The home builder is always confronted



A HOLLOW TILE RESIDENCE AT CALDWELL, N. J. FIREPROOF THROUGHOUT. COST COMPLETE, INCLUDING CONTRACTOR'S PROFIT, \$4500. UPJOHN & CONABLE. Archts.

with these items and much thought and study is required to solve them in a manner satisfactory to all the family interests.

The question of fireproofing can now be added to the rest and the owner must decide if it is best to spend a little more in the first cost, obtaining a house which requires no painting, no renewal of disintegrated materials, and upon which no insurance need be placed, or to build of wood and always be called upon to supply these items. It would seem that there could be no question as to which was best and cheapest in the end. Wood is constantly rotting and allowing the structure to sag, cracking the plaster and causing doors to swing out of true. The exterior must be painted often and the roof requires constant vigilance to preserve the costly decorations of the interior. Fireproofing will reduce all this

to the minimum and the architectural excellence of our cities will be improved and put upon a more substantial basis.

Have we really considered what it would mean to have a city in which the buildings could not burn? The item of fire insurance is not the only consideration. It is now necessary to maintain elaborate systems of high water pressure, build and equip numerous fire stations with an army of men constantly upon the watch, to secure even a semblance of protection. At the best great buildings are occasionally destroyed and at times the important part of large cities has been wiped out, in one vast conflagration. The fact that insurance is in force does not prevent a loss. Some one loses it if not the owner of the building. Taxes must be maintained at higher rates, to provide appliances and men to fight fire and the



A RESIDENCE IN NEW YORK CITY. WALLS AND FLOORS OF TERRA COTTA HOLLOW TILE.
WALLS FINISHED WITH CEMENT STUCCO SQUIRES & WYNKOOP, Archts.

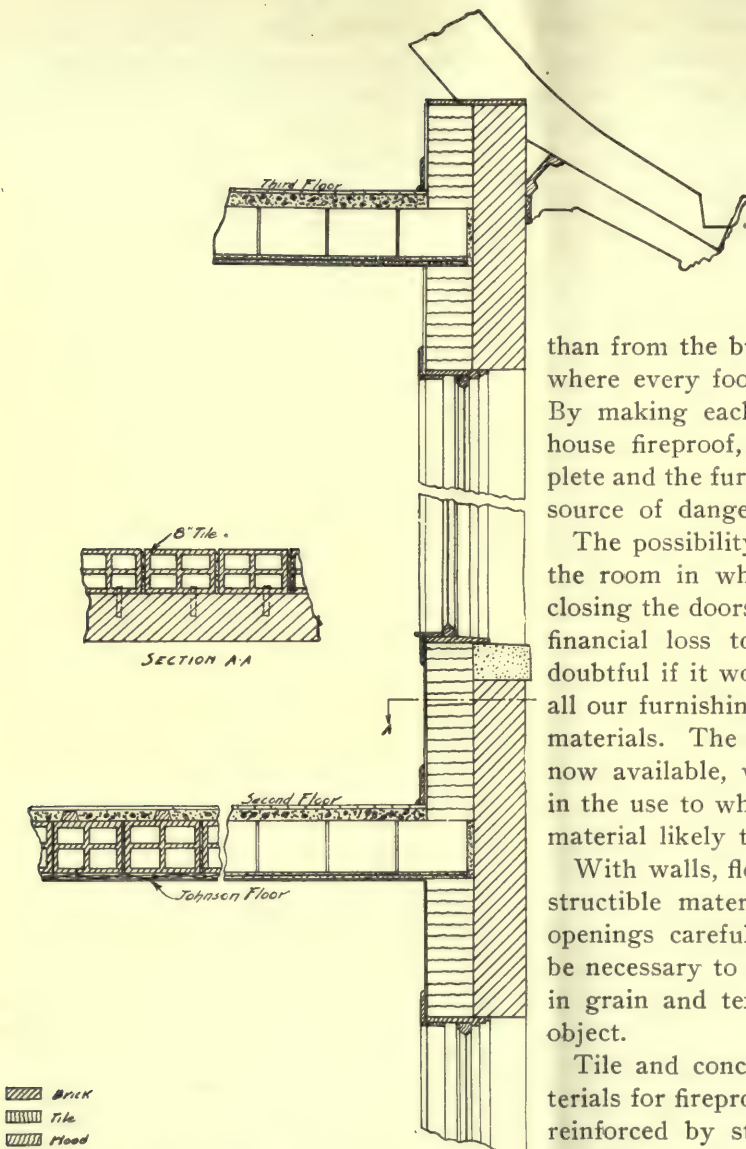


Figure 2. CONSTRUCTION DETAILS OF A HOUSE
FACED WITH BRICK

result is a loss to the individual and to the nation.

The reader is chiefly interested in the question as it applies to the home and it is here that the solution is easiest. Isolation is the basic principle upon which to construct a fireproof building. The home in itself is a unit and therefore fulfills the first requirement, making it easier to eliminate fire from the residence district

than from the business portions of town, where every foot of ground is occupied. By making each part of the individual house fireproof, isolation becomes complete and the furnishings become the only source of danger.

The possibility of confining the fire to the room in which it occurs by simply closing the doors, reduces the danger and financial loss to the minimum. It is doubtful if it would be desirable to have all our furnishings and finish of fireproof materials. The rich and beautiful woods now available, will hardly be surpassed in the use to which they are put, by any material likely to be produced.

With walls, floors and ceilings of indestructible materials and communicating openings carefully protected it will not be necessary to sacrifice so much beauty in grain and texture, to accomplish the object.

Tile and concrete make excellent materials for fireproofing. It is the concrete reinforced by steel bars, that furnishes the support and stiffness and the tile simply fills in the spaces.

Figure 2 shows a section through a tile wall faced with brick, the window frames and the floors of tile and reinforced concrete, at the second and third floor levels. The house for which this section was made was constructed with a roof of wood as indicated. This is a mistake because the roof is likely to be fired from without, resulting in a loss from water as well as fire. A partially fireproof house is little better than a frame house,

only the items of stability and warmth being superior. Considered only as a material with which to build a wall that will be satisfactory in the general construction of the house, the point of view and object is different and the hollow tile will meet all requirements within the idea.

The wall of tile shown would not be sufficiently strong without reinforcing for a building other than a dwelling, and in some cities the building ordinances would require the wall to be at least ten inches thick. The quality of the tile must not be overlooked, as the strength is much impaired by tile of faulty manufacture.

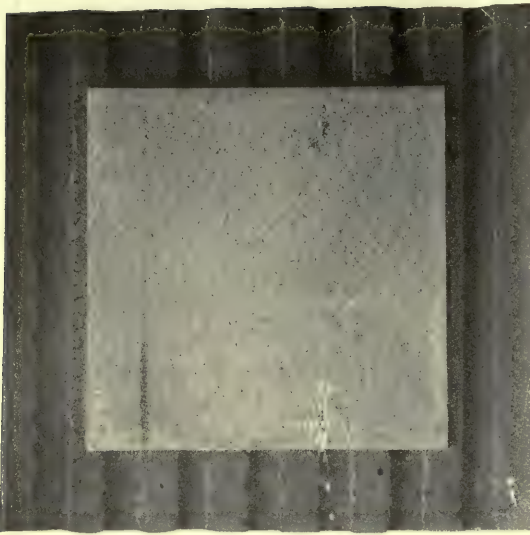
Such a residence as that built at Englewood, N. J., by Aymar Embury, archi-

tect, with first story walls of tile and the second story of wood, shows how readily the material lends itself to construction of old colonial and other types of wooden architecture. Numerous styles are illustrated showing the adaptability of the material.

The exterior finishes are very interesting, being applied to the surface of the tile in coats, the last one containing aggregates of various sizes and composition to produce the desired texture and appearance. A few of the most popular finishes are illustrated. Approximate estimates from a responsible contractor indicate that the cost of these finishes will average about seven cents per square foot of wall surface.

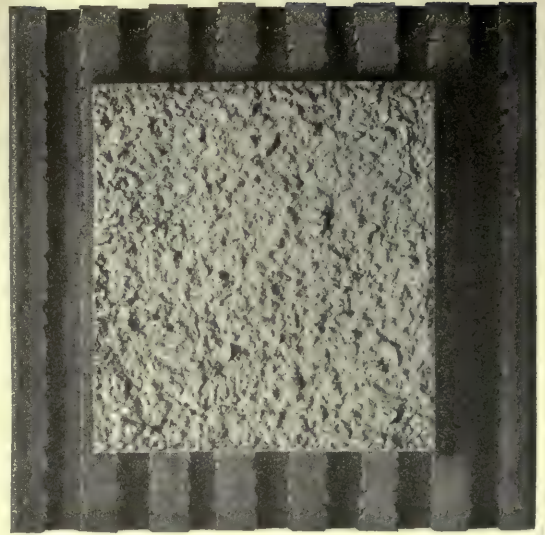


RESIDENCE AT ENGLEWOOD, N. J. FIRST STORY WALLS AND CHIMNEYS ONLY, ARE OF
TERRA COTTA HOLLOW TILE *AYMAR EMBURY II, Architect*

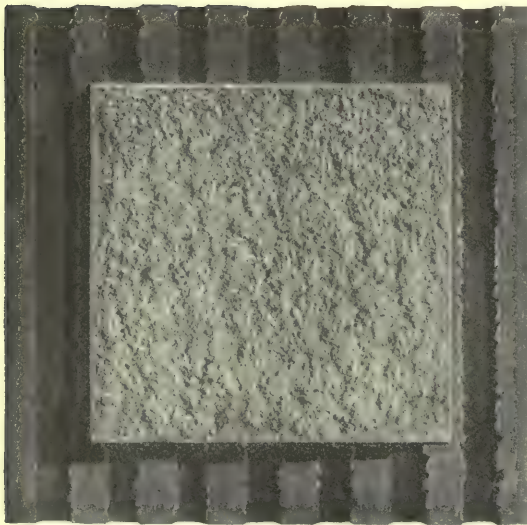


SAND FINISH STIPPLED

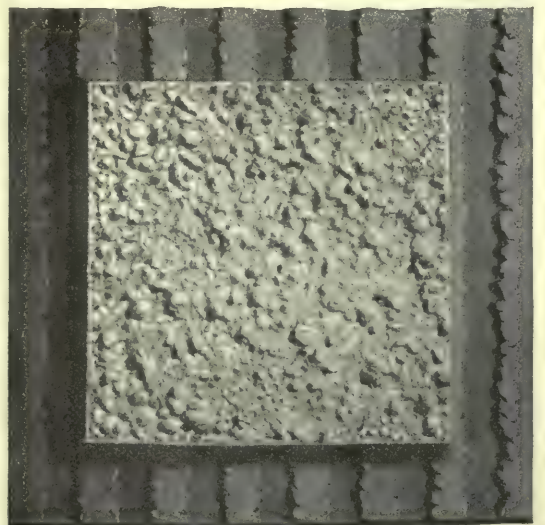
Composition of Portland Cement and Sand



ROUGH CAST

With Torpedo Sand. Composition of Portland Cement
and Torpedo Sand

ROUGH CAST

With Stone Screenings. Composition of Portland Cement,
Sand and Stone Screenings

PEBBLE DASH

Composition of Portland Cement and Sand with
Pebbles Applied

NOTE.—The illustrations for the foregoing article appear through the courtesy of the National Fireproof Co., to whom we are also indebted for some of the facts contained in the text.—Ed.

The Extremely Low Bungalow

SEVERAL TYPES OF THE NEW AND VERY
PICTURESQUE LOW ROOFED BUNGALOW

By Mrs. Kate Randall



A BROAD, LOW ROOFED BUNGALOW NESTLING AMONG THE TREES

THE fancy of the moment is the extremely low roof, a new departure in bungalow architecture and very picturesque. Before the advent of Malthoid roofing such roofs were quite impossible. Shingles were out of the question, and who of us does not recall the rusting tin and sticky combinations of gravel and tar? Always a source of trouble. Now we see these quaint roofs with a pitch—without a name—they are so nearly flat. Of course there can be very little air space under such a roof, and great care must be exercised to secure sufficient ventilation, from all sides, or they will be hot in summer. The most satisfactory have latticed gables, so open that one may look directly through, from one side of the

house to the other, on the same principle as a fly over a tent. The breeze has free access and they are very comfortable. These little houses do not differ materially from the usual bungalow plan. One large room across the whole front, and dining-room and bedrooms back. But one is continually surprised at the amount of room and the charming interiors. We see hundreds of them, yet the builders succeed in giving a touch of originality to each. Some are covered with oiled shakes or shingles, or stained rustic, others are plastered and even reinforced concrete is seen. All have the Malthoid roofings, lapped all over the wide eaves. Cement, cobble stones, and burned brick, enter largely into foundations, porch pillars, steps and chimneys,



COBBLESTONES OF HARMONIOUS COLORS CONTRASTED WITH CRAFTSMAN DETAILS IN DARK STAINS

The burnt brick seems more in harmony with the shingles and rustic, yet cobble stones are used on all kinds and sizes. Veritable boulders being utilized on the smallest homes. The immense outside chimneys built of these stones remind one of great anchors on a very small craft. Still the result is extremely unique. Porch floors and steps are almost uniformly of cement—a reddish tint being much liked. One attractive feature of

these little homes is the “sleeping roof porch.” Over the center of the slightly sloping roof is perched another small one, like a big night cap. The illustration shows this arrangement better than I can explain it. The Patio, or court, is very popular and nothing could be more useful. The question of the points of compass is no longer a vital one in the selection of a lot, for with such a Patio, a northern exposure may be as bright



A VERY ATTRACTIVE COMBINATION OF WIDE CORNICE, “SHAKES” AND ROUGH BRICK



A COBBLESTONE CHIMNEY WITH AN ITALIAN TOP IS THE DOMINANT NOTE IN THIS DESIGN

and sunny as one with northern light. One of our illustrations show a court let in on the south which brings sunshine into every room. Another has an open central court. This serves, in fine weather, as living-room, dining-room or central hall. It has a fountain in the midst of greenery and an awning covers the roof during the heat of mid-day and at night all doors and windows opening into the Patio are left wide open,

with a most restful feeling of security, for nothing but the cool night wind can intrude.

Any amount of money may be spent on these small homes, but the ingenious man of small means, but the possessor of a stony lot, is to be congratulated. He can so utilize his boulders and stones, that he needs but little money to complete a most attractive home.



POSSESSING A DIGNITY ALL ITS OWN; WITH GENEROUS ENTRANCE AND WIDE OVERHANGING ROOF

Designs for the Home-Builder

THE early fall work goes briskly forward. The wise homebuilder sees that a good start now means a saving in time and money. While the weather is still favorable the work can be pushed to a point where cold and snow may be ignored and the house carried on to completion allowing an early occupancy.

While the fine weather continues, advantage should be taken of it to get the

best results. No one can work as well with cold hands and aching feet and the building public gets less for the money not only in quantity but in quality as well. If an architect is consulted soon the plans can be purchased and good progress made before everything "closes up."

Attention is called to the variety of good designs in this issue by leading architects in price to suit the finances of all.

DESIGN B 174.

The exterior walls of this design below second story sill course, porch columns, balustrade, and 10-inch bearing partitions to be of plain concrete. Minor partitions to be of 3-inch concrete blocks. First, second and attic floors and stairs to be of reinforced concrete. Base course, sills, lintels, band course, architraves and sill course to be of cast concrete. Exterior walls above second story sill course to be of 8-inch concrete blocks laid with wide joints. Walls below sill course to be bush-hammered. Roof to be of tile supported on steel and finished with green slate shingles. Floors to be of clear maple except in kitchen, pantries, rear entry and servant's portion, which will be of No. 1 common maple, maple floors nailed to sleepers bedded in concrete. Terrace and vestibule floors to be of red quarry tile, mantel face and hearth to be of cast concrete and finished in colored cement and tile.

Interior trim to be of straight sawed red oak throughout first story, except in kitchen and pantries which will be of yellow pine. Stairs and second floor to be finished in birch for stain or paint. Attic portion to be finished in yellow pine. Cellar excavated under main portion of house. All flues lined. Outside walls furred. The designer assumes that his client will make such improvements as to justify placing the most important exposures on the south. Cubic contents based on area of

house including porches and projections and, taken from bottom of basement footings to average of main roof, 41,024 cubic feet, or approximately 29 cents per cubic foot.

It is estimated that the complete cost with heating and plumbing will be \$8,100.

DESIGN B 175.

This house is designed in the pure old Colonial style, all the details of construction being carefully worked out upon classic models. The walls are of red brick and the trimmings, with the exception of the window caps, are of wood painted white. There is a wide veranda across the front from which one may pass to the vestibule and front hall with library at the right and the living-room, with mantel and beamed ceiling, at the left. Behind the living-room is the dining-room also containing a fireplace and a conservatory bay. The kitchen is reached through the pantry and there is a servant's dining-room reached through the kitchen, pantry or from the rear hall. There is a front and back stairway, each having its entrance to the basement, which is 8 feet high and contains a hot water heating plant, laundry, drying room, fuel bins and storage space. On the second floor are five chambers and two bathrooms. A feature of the arrangements are the large number of clothes closets. The attic is of ample size and contains the servants' rooms and a ballroom. The finish and floors of the principal rooms of the first floor are quarter-

Cottage Designs for the Home-Builder—Continued

sawed oak in dull art finish. The kitchen portion is finished in natural birch with birch floors. The oak finish is carried into the second story hall, but the rooms are finished in white enamel. The basement is 8 feet deep. The first story is 10 feet and the second story 9 feet high. The size upon the ground is 60 feet by 41 feet exclusive of porches.

The architect's estimated cost including heating and plumbing is \$10,000.

DESIGN B 176.

This design is of a brick house in the real sense of the word. The porch columns are carried upon brick piers and with the wide aspect towards the street and pleasing central dormer gives a very charming effect. The setting is especially good with the large trees and attractive planting of the grounds. Entry is made from vestibule into a reception hall, containing the stair case from which one may pass to the kitchen or through the columned opening to the living-room. The dining-room is located at the left with a pantry between it and the kitchen. Its ceiling is beamed. The stairway is of the combination order, leading to the second floor, with basement stair beneath. In the basement is a laundry, hot water heating plant with fuel bins and necessary storage. On the second floor are three very fine chambers each with a closet and in one is a fireplace. There is an extra large bathroom, sewing-room and linen closet. The attic is of ample size and contains a maid's room. The finish is of birch with birch floors for the first story; the second story is of white enamel with birch floors.

The house is 32 feet wide and 31 feet deep exclusive of the porches. The architect's estimated cost is \$5,000.

DESIGN B 177.

This is a home for a man desiring a bungalow of unique design, entirely out of the ordinary run of homes. It is distinctly Craftsman in its style of architecture, all of the doors being perfectly plain without panels. The windows are all casements, and all lumber on the exterior is rough, unsmooth, just as it came from the saws.

The living-room extends across the entire front of the house and has several unique features, one of them being the unusual group of six casement windows in a row; four of these swing on hinges. Red sand mould brick has been used for the exterior facing of the chimney. The walls are shingled and stained a

Mission brown, of a color just a little lighter than the brown stained woodwork.

The width is 28 feet; the length, 40 feet; height of first floor, 9 feet 6 inches. Estimated cost, not including heating, \$2,200.

DESIGN B 178.

A bungalow that is not only attractive but contains as much room as a two-story house, is often desired but not often found. This design contains seven chambers as well as the usual living-room, dining-room, pantry, kitchen and two bathrooms. The living-room is large and contains the stairway and a fireplace. The ell-shaped porch will provide room for all and even a degree of privacy for those who wish it. There is a basement under a portion of the house containing the furnace and laundry. The finish is Georgia pine for the first floor and pine painted for the second.

The size upon the ground without porch is 30 feet by 53 feet. The first story is 9 feet and the second 8 feet 6 inches with a slight lowering at the sides in some rooms. The architect estimates the cost at \$4,100.

DESIGN B 179.

This attractive little home was intended primarily as a summer cottage that would accommodate friends of the family upon frequent visits from town.

The exterior is very pleasing, with its high pitched roof and dormers. The ample front porch provides room for a large party. There is a living-room of good size with a fireplace to make cosy the chilly evenings.

The dining-room is connected with the living-room by a wide arch and the stairway is adjacent.

There is a well-appointed kitchen with a good storage space. The pantry is large, with counter, cupboards and drawers. A convenient space is provided for a refrigerator. As a permanent home the construction would have to be somewhat better than shown and a heating plant should be provided. Siding is intended for the first story, porch and dormers and shingles in the gables.

The finish is in pine, with pine floors.

Width, 34 feet by 25 feet deep. The estimated cost is \$2,100.

DESIGN B 180.

This is a picturesque little wooden house with roof extending over porch. There is a square projecting bay upon the front with grouped windows. The walls are sided. The



Courtesy of Universal Portland Cement Co.

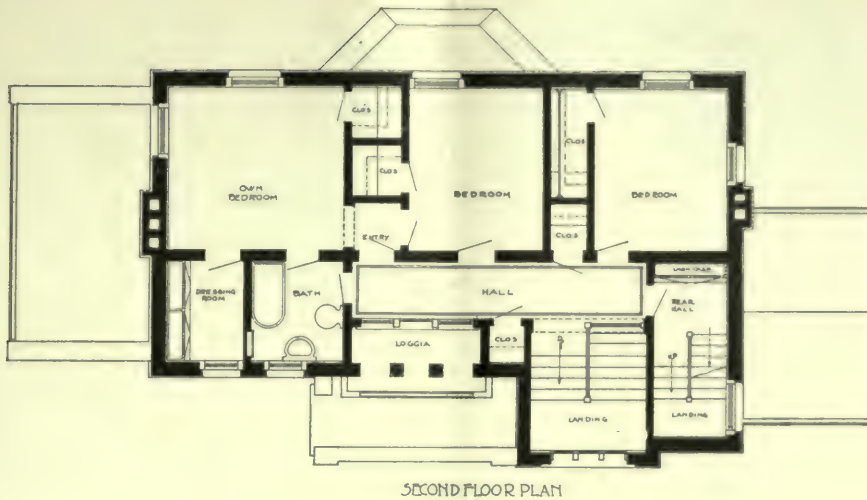
HUGH DEMING, Designer

Of Concrete with Tile Roof

DESIGN "B 174"



FIRST FLOOR PLAN



Cottage Designs for the Home-Builder—Continued

porch is placed at the side and enters upon the living-room from which is a chamber at the rear and a dining-room at the left. The kitchen communicates with the dining-room and with the living-room through the stair hall and is complete with cupboards, sink, etc. There is a stair to the basement, which contains a furnace. On the second floor are three chambers, linen closet and a large bathroom. Above is a small attic for storage. The first story is finished in birch with birch floors and is 9 feet high. The second story is finished in pine to paint with pine floors and is 8 feet 6 inches high with the corners cut slightly at the sides.

The house is 27 feet 6 inches wide by 30 feet 6 inches deep exclusive of porch. For the size upon the ground this house contains a great deal of room and will meet the requirements of families of more than ordinary size. It is estimated to cost, with plumbing and heating, \$3,000.

DESIGN B 181.

This eight-room bungalow was built on a corner lot facing north and east. The house has a stone foundation and the cellar extends under the entire house with cement floor. The heating is by hot air furnace. The living-room on the front commands fine views to the north

and east. This is a spacious room and has a brick corner fireplace. From the dining-room access to a passage hall is had and from this hall the stairs to second floor and to basement and access to bedroom and bath is obtained, making a most compact and ideal arrangement. In the bay of the dining-room is a built-in seat and in this seat are large built-in drawers, providing a good storage space for linen. There is a fine pantry completely filled with cupboards.

On the second floor are arranged three rooms in the space under the roof. These rooms are all of good size and practically of full height. The outside walls are sided and roof is shingled. The walls are painted a warm brown, the roof stained a soft moss green and the trimmings are ivory white. The inside finish is of selected curly fir for the main rooms and in the other rooms is pine finished in the natural color of the wood.

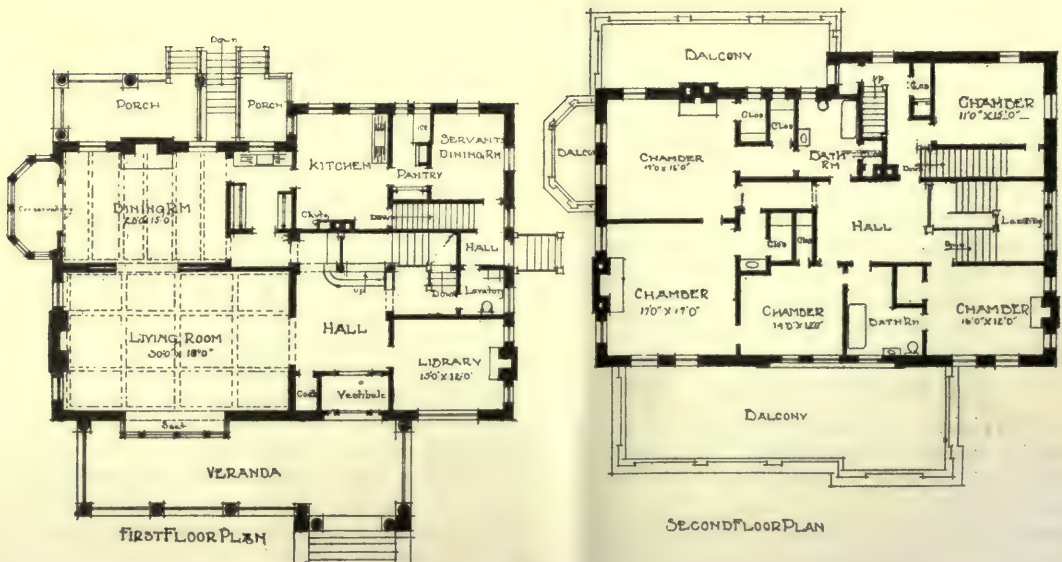
The floors of the vestibule, living-room, dining-room and front bedroom are of quartered white oak, the other floors are of maple. The basement is 7 feet 6 inches high, the first story 9 feet and the second 8 feet 6 inches to 6 feet. The house is 28 feet wide and 50 feet deep. The cost of the house complete as described and built in Spokane last fall, including architect's fees, was \$4,100.



STERNER & WILLIAMSON, Architects

A Colonial Design of Generous Proportions

DESIGN "B 175"

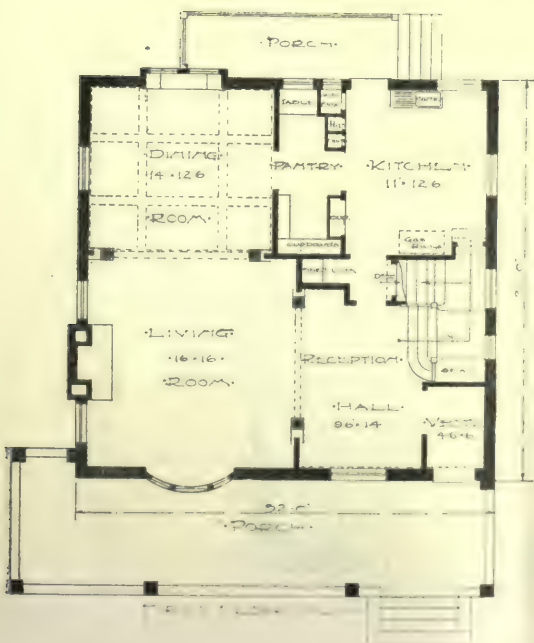


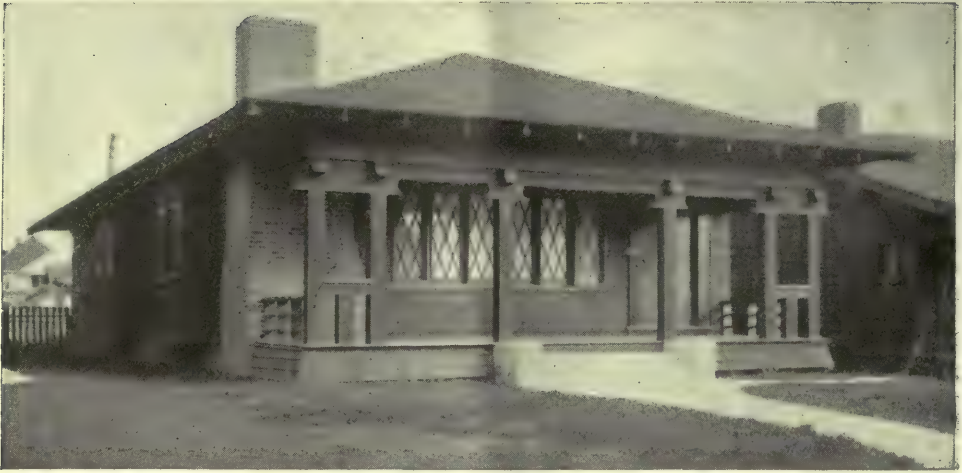


S. J. BOWLER, Architect

A Brick House in Pleasing Environment

DESIGN "B 176"





Unique Design in Craftsman Style

DESIGN "B 177"

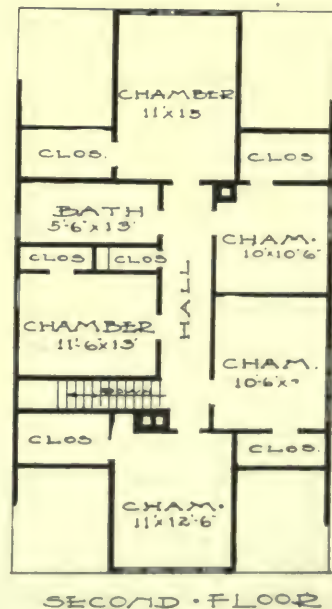
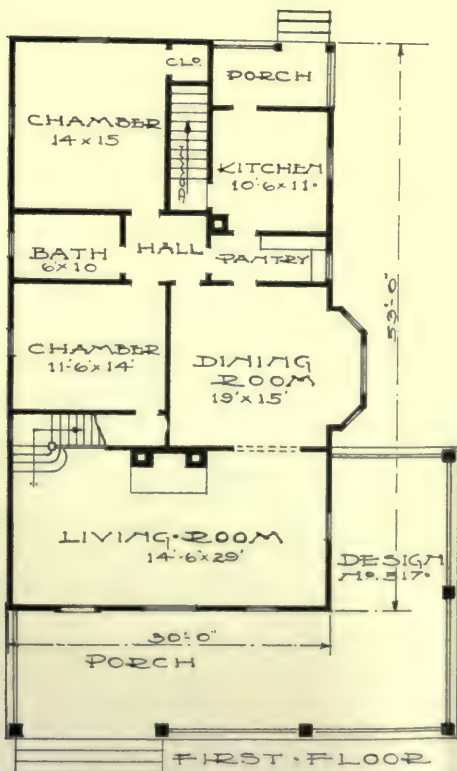




ARTHUR C. CLAUSEN, Architect

A Spacious Bungalow

DESIGN "B 178"

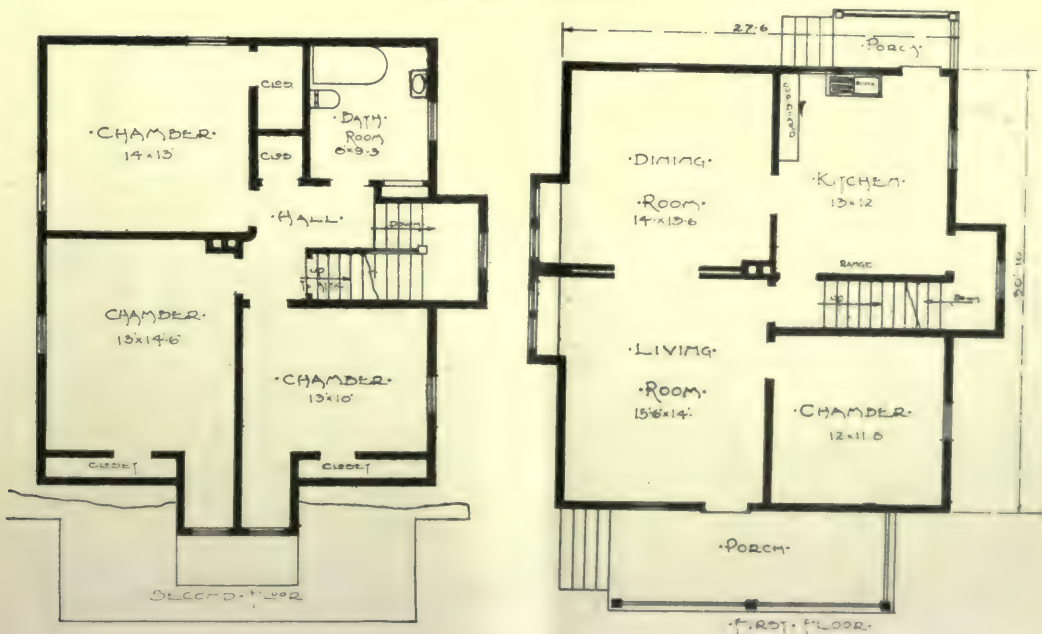




EDWINS & EICHENFELD, Architects

An Inexpensive but Roomy Home

DESIGN "B 180"

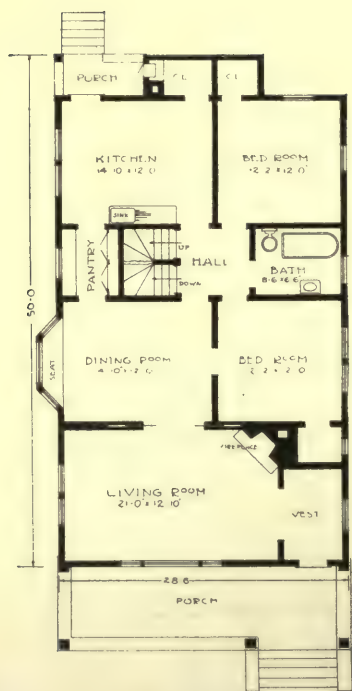




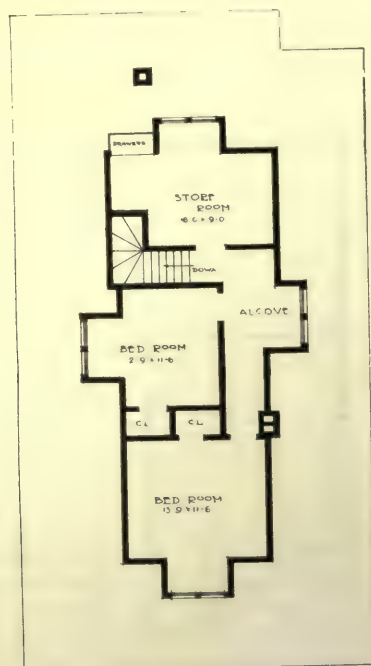
KEITH & WHITEHOUSE, Architects

An Interesting Western Bungalow

DESIGN "B 181"



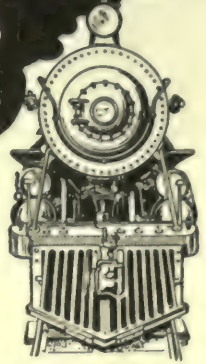
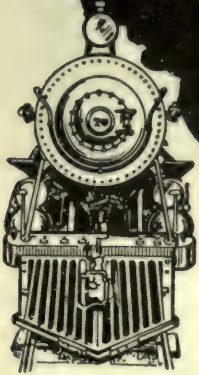
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Concerning Black Walnut.

WE hear a good deal, first and last, about the return to popularity of black walnut. One must wonder if the people, who say so much about it, realize that there are many varieties of walnut. About eight years ago, Circassian walnut made its appearance in the market. It is a beautifully marked wood of exceedingly fine grain, which takes a high polish and can be elaborately carved. Its color is a grayish brown, not essentially different from fumed oak, and the markings are perceptibly darker. Its cost is about the same as that of mahogany. It is most effective in the French styles, and a bedroom set, twin beds, bureau, chiffonier, dressing table, somnole and chairs, with cane panels, mounts well up in the hundreds. Although it is made up in perfectly plain style, on the Craftsman order, it is not specially pleasing, as the plain surfaces are apt to have a striped effect, owing to the lines of the grain. In fact it is most effective when combined with cane, or as the framework of upholstered pieces. It is particularly good in combination with the dull blue and old rose of French furniture brocades. But whatever its merits or demerits, it is far removed from the black walnut of our childhood. As for furniture made from this latter wood, it may be in the market, but the writer has not discovered it.

It seems rather a pity, for black walnut had substantial merits. Ugly as much of the furniture made from it was, it was no worse than that made from rosewood or mahogany, and the lines of pieces made after the decorative revival of the Centennial year are often very good. The

great demand for it for a long period of years exhausted the supply and its place was taken by oak, under whose tyranny in its golden developments, we still groan. Another thing against it was its sombre tone. We have learned, by degrees, the value of color, but the textiles of the early years of the decorative Renaissance were of exceedingly subdued tones, sage greens, muddy yellows, queer blues, which needed a wood of more color than walnut. But now it would seem as if there were a place, if not for an epidemic of walnut furniture, at least for a certain proportion of well made pieces of good lines and agreeable tint.

Not every one knows that old French furniture, for which people pay great prices, is nearly all of it made from walnut. So is much of the old Italian furniture, a proof of the wood's substantial merits, after centuries of use.

Rejuvenating Old Walnut.

There is a good deal of black walnut furniture about, either in attics, or to be bought for a song at second-hand shops, which is capable of being made into something very satisfactory, and so altered from its former estate as to be unrecognizable. Much of the ungainly ornament of walnut furniture was merely glued on and is easily removed, and undesirable excrescences can be sawed off, leaving only the main outlines of the chair, table or sofa. The application of a varnish remover will reduce the wood to its original light color, as all walnut is stained and varnished, and in its natural state is a very light ashes of roses. Successive applications of sandpaper, stain and wax, and you have a piece of furniture of fine texture and beautiful color,

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Decoration and Furnishing—Continued

ready for upholstering, or, in the case of a table or bookcase, able to hold its own with modern and expensive articles.

The text of this is some work which has recently come under the writer's eye. The number of sittings in a church built in the sixties was greatly reduced and, from the discarded walnut pews, with no other assistance than that of the carpenters and painters of the neighborhood, a canopied reredos, an elaborately panelled screen and various sedilia were made. In staining, the exact tint of old French walnut was copied, not that of the conventional black walnut. There would seem to be no reason why walnut reduced to its natural light color should not take a green stain as well as a brown. The mere fact of its being given the dull wax finish removes one great objection to old fashioned black walnut, its varnished surface.

The Decorative Value of Mirrors.

When arranging their rooms, people do not half realize the help that a mirror is to the general effect. There used to be an idea, which still persists in religious houses, that mirrors were a temptation to vanity. Never was a greater mistake. It is impossible to take a consistent pleasure in one's appearance when a mirror in the living room reflects every phase of one's looks. Few of us are good looking all the time, and the mirror brings the fact home to us faithfully.

A mirror here and there adds a high light to an otherwise dull room, which is most effective. Mirrors add to the apparent size of a small room and dignify a large one. There is nothing like a mirror for filling up odd spaces in a room, the narrow bit of wall between two windows, the bare space over a table or a chair and under the pictures, the corner too dimly lighted for a picture, and it may be square, circular, or oblong. The Marie Antoinette mirrors, with a picture filling the upper fourth of the frame, were mentioned in a recent number. A cheap way of getting a decorative, circular mirror is to buy a round Florentine gilt photograph frame, and have a bit of looking glass fitted to it.

The cost of the whole is much less than that of a framed mirror. Of course the

support of the frame must be removed and the mirror hung flat against the wall.

Seen in a Window.

To the discerning eye the show windows of what are known in the trade as "exclusive shops," are most interesting and suggestive of color schemes. Here are two or three bits, gleaned in the course of a few blocks on Fifth Avenue.

The back of one window was filled in with a square of tapestry in faded blues and greens. Against this background stood a carved cabinet of white mahogany, mellowed by age to a delightful golden tone, and a high backed Jacobean chair with a carved brown oak frame and cane seat and back. On the cabinet stood a bust, in colored terra cotta, of a woman with warm chestnut hair, soft olive skin and hazel eyes, in a blue gown with touches of orange. Just in front of the cabinet was a stool with a rather dull gilt frame and a cushion of faded red Genoese velvet. The Oriental rug in dull blues, tan and rose carried out the prevalent tones.

Another effective window had a backing of figured cotton, bouquets and blue ribbons on a pure white ground. On the highly polished floor stood a long sofa with walnut frame and cane back. The seat had three cushions covered with a blue and white brocade, also two round bolsters. In every seam was set a tiny frill of white taffeta ribbon, and the effect was astonishingly dainty. Close by stood a large easy chair covered in plain blue satin of the same shade as the blue of the brocade. We are too apt to think of distinctively French furniture as being either white or gold. The furniture of palaces in the Louis Seize period was of this delicate sort, but people of the middle classes contented themselves with the commoner woods, and there is no reason why we should not copy their example, if our taste inclines us to furnishings of that period.

Gray Wicker and Colonial Chintz.

A third window displayed tables and chairs and settles of wicker, painted gray, what is called a French gray, a little darker than pearl color. The cushions were of one of those delightful cretonnes



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Decoration and Furnishing—Continued

which copy old crewel work, a charming confusion of bright colored flowers and foliage and tropical birds, on a white ground.

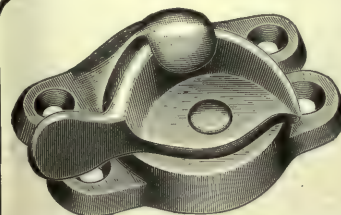
Curtains of Peacock Chintz.

In a studio on Twenty-eighth street, there is a very good window arrangement. The walls of the room are covered with green burlap with a white drop ceiling, the woodwork stained green. A low window in three divisions extends almost the entire width of the room, facing north. A foot and a half at the top of the window is filled in with a lattice work of narrow strips of wood, possibly what printers call riglets, and stained to match the other wood. Below this is a very full valance of cretonne, peacocks and green foliage on a white ground, about nine inches deep, and straight curtains well pushed back hang at the extreme ends of the window, the central compartment being left uncurtained, except for the valance. A similar arrangement would be charming with white woodwork and a yellow wall, introducing a good deal of green in the shape of wicker furniture and pottery.

Wheatley Pottery in Blue.

And apropos of pottery, the Wheatley people have an unusually good blue, which makes its appearance in sundry jars and pots, of unusual shape. It has more color than the average blue of the art pottery, and looks as if it might harmonize with the blue Oriental wares. Will it look well with Canton china is a good test to apply to any blue to be used for decoration.

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ANSWERS TO QUESTIONS ON INTERIOR DECORATION

Editor's Note.—The courtesies of our Correspondence Department are extended to all readers of KEITH'S MAGAZINE. Inquiries pertaining to the decoration and furnishing of the home will be given the attention of an expert.

Letters intended for answer in this column should be addressed to Decoration and Furnishing Department, and be accompanied by a diagram of floor plan. Letters enclosing return postage will be answered by mail. Such replies as are of general interest will be published in these columns.

A. W. P.—Enclosed please find blueprint of my five-room bungalow. You will note from the pencil marks the respective exposures. The ceiling is 9-foot 6 inches high with beam boards $\frac{7}{8} \times 8$ to give panel effect in hall, living-room and dining-room. The interior woodwork will be dark stain, that is for the above three rooms mentioned. Bedrooms will probably be natural finish.

In the three main rooms will be beech floors, varnished or stained.

I should like your opinion as to the best wall colors so as to harmonize with bungalow ideas. The dining-room will have plate rail, 5 or 6 feet high, and in place of sliding doors I have been thinking of substituting glass swing partition doors to still carry out further the bungalow style.

My wife suggests green for the living-room and hall, with probably a lighter shade on ceiling. In dining-room possibly yellow on ceiling and down to plate rail and balance perhaps green or terra cotta. This will be a very well lighted room with a southern exposure, so I presume it should be a color of prominence, etc.

A. W. P. Ans.—In reply to your inquiry concerning color schemes, desire to say that in regard to tints for interior of your bungalow, a soft and rather dull green would be pleasing for side walls of the southwest living-room, with ceiling a soft ecru which can be carried into the hall and, it is advised to use a warm, deep ecru on the side walls of hall in lieu of green as with the northwest facing, green would be rather gloomy. A mixture of green and ecru in the rugs and furnishings will bring the two rooms together.

Your idea of using glass partition doors is excellent, but yellow will be rather garish in the south dining-room. Old blue is a good tint to use in a bungalow dining-room, or you could continue

the green of the living-room in a darker, richer tone on wall below plate rail, with soft old blue above, and a stencil decoration in blues and greens on the upper walls, with ceiling a deep ivory. A rug in blues and greens should carry out the color scheme with curtains of deep ivory scrim stenciled in green and blue.

The woodwork of the two north bedrooms should be painted white, with white ceilings and side walls of one tinted yellow, the other Dutch pink. The tinting can be applied shortly after house is finished.

H. L. P.—Will you kindly advise me about the finish of the woodwork in our new home?

The living-room, dining-room and library are to be finished in quarter white oak. I am very fond of wood stained grey, but can't have the dining-room grey because we have a golden oak china closet, and can't have the library grey on account of a big roller top golden oak desk.

I have no furniture for the living-room. The fireplace is 7 feet wide, and is to be of a dull old blue tile with wood at the sides and heavy shelf. Would you advise having this room stained grey, or would it be in better taste to have all the rooms the same color? The living-room has beams as indicated with pencil, and a cornice. About half of the stairs are open and the rest closed in. The room has southwest exposure.

Will you please advise about the outside of the house?

The first story is of reddish-brown pressed brick, called iron-spot. The window sills are grey stone and the cement above of grey cement. Ought all the woodwork around under the cornice to be brown if the timbers are? The cornice overhangs so far that it comes almost half-way over the windows and I was afraid would give the inside rooms a dreary look. Would white on the under

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An accurate and carefully thought-out color scheme for each room of this model bungalow is reproduced in color in this Portfolio. There are suggestions for painting the outside of the cottage bungalow, and for planting the grounds. Suggestions for furniture, hangings and rugs are included.

When you have looked over the decorative suggestions shown in our Cottage Bungalow Portfolio you can do one of two things.

1. Adapt all of these color schemes to your present house, getting equally good effects.
2. Send to our Decorative Department blue prints, drawings or descriptions of your house or other buildings and we will work up special color suggestions for you.

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Answers to Questions—Continued

side of the cornice be in bad taste?

What color would you advise for the roof? We thought of using brown, but am afraid the house will look rather sombre. Would you paint or stain outside woodwork and shingles?

Mrs. H. L. P. Ans.—Replying to your inquiries of the 8th inst., it is suggested to relieve the sombreness of the exterior, by staining the roof shingles a warm reddish brown and painting the window sash cream white. The cream white may then be used underneath the cornice boards as your point in regard to shading the windows too heavily seems well taken. The cornice itself and all the trim except the vertical timbers, would be interesting if painted a rich olive green with the vertical timbers stained brown.

Regarding the interior woodwork, the effect would be better if the wood finish of living-room and library at least were the same. The dining-room is often given a special treatment. Austrian grey or the standard grey, manufactured by the parties mentioned in our letter, on your quartered oak would be very artistic for living-room and library. It would hardly seem that the matter of the roller top desk should decide such a question as the entire treatment of these fine rooms in so handsome a house. Sell the desk or use it elsewhere. A roller top desk is seldom seen now outside of offices.

The dining-room facing north, with brown fumed oak and yellow introduced into the decoration would be attractive. The china closet could be refinished to correspond.

In regard to using a grey stain on the birch woodwork of owner's chamber, the result would be rather unsatisfactory.

Birch is a reddish wood and would change the tone of the stain to a pinkish-brownish grey. You understand that the same stain gives different results when applied to different woods. This same stain applied to maple or pine would give a soft silver grey which, if properly carried out in the furnishings and wall treatment, would give a chamber of much charm. Very much depends on the furniture you use. Birch is at its best when finished natural or with a mahogany stain, though other stains are used.

F. J. K.—We have a semi-bungalow house which we had plastered with a sand-float finish intending to tint the walls. Since then we have been told by several decorators that the walls should not be rough and that tinting was no good, that after it was tinted we couldn't paper or anything else because it wouldn't stick. Is that true of all tinting material? Were we wrong to have a sand-float finish? We thought we could tint walls for a little while and then later do something different. Is burlap nice enough for living room in such a house? Please tell me whether all tinting peels off or if you can paper over it without washing the tinting off?

F. J. K., Ans.—In reply to your recent inquiry wish to say that if you desire to tint your walls, then the sand-float finish is the proper thing. It is usually better to use a sand-float finish on ceilings only and the hard putty coat on side walls, as the hard finish can then be either tinted or covered at pleasure. The rough finish can be papered, but it is necessary to specially prepare it with heavy size or if very rough, with coarse muslin before covering. If the walls have been tinted with kalsomine, it is also necessary to wash that all off, before paper can be used, as it is true that paper or burlaps will not stick over kalsomine. You can avoid this by using the preparations, as named in our letter, for tinting which stick to the wall so tight that the surface is not injured for papering.

Burlap is not only "good enough" for covering the living room wall, but would be exceedingly handsome and serviceable as it does not fade or crack like paper and is therefore economy in the end. It also gives a very restful, plain background for pictures and furniture.

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Sultry September.

NO matter how torrid the summer has been, or how long continued the high temperature, September is sure to bring some excessively hot days, whose only compensation is that the nights are generally cool. Coming as it does just at the beginning of the activities of autumn, such a hot spell is apt to undo the good that the summer's rest has accomplished. Since so many of us are spurred up by an inexorable domestic conscience, which tells us to be up and doing, without much mercy for our flagging energies.

Now this is the sort of activity which is justly named pernicious. The sensible thing to do is to take things just as easily as possible, while the warm days last, eat lightly, dress coolly, sleep plentifully. Then mind and body are in the best trim to enjoy the most delightful season of the year, early autumn.

Concerning Eggs.

The egg, if freshly laid, is an almost ideal article of food, that is for people who like eggs and are not of a bilious habit. But the freshly laid egg is rare in cities, nor can all dwellers in the country have chicken farms. Therefore it behooves us to consider the possibility of gastric disorders before indulging too largely, and the latest dictum of some physicians is that the rheumatic should not eat eggs. These strictures do not, of course, apply to eggs used in combination with other ingredients. Nor, if eggs are injurious at all, does it make any special difference how they are cooked, except in the length of time required for digestion.

Eggs are rich in proteid, with a good

proportion of fat, this latter residing in the yolks. Aside from their use as a separate article of food, they are of great value in supplementing the deficiencies of foods which are lacking in one or other of these elements of nutrition. The Germans understand this and add them in large quantities to soups and sauces. The white fishes, which contain almost no fat, are greatly improved by a Hollandaise sauce with its yolks of egg and butter. Occasionally a child refuses to eat butter and the needed supply of fat becomes a problem. Yolks of egg, with their twenty per cent of fat, will often prove an acceptable substitute.

Co-Operating in Conveniences.

While there are a great number of labor saving appliances upon the market, their cost makes them prohibitive to people of moderate means. Such are bread mixers, washing machines, vacuum cleaners, mangles and various electric appliances. Why should not a group of neighbors co-operate in the purchase of one or all of these appliances, using them in turn? In a servantless community such an arrangement would certainly make life much easier, and the expense to the individual would be small in comparison to the substantial benefit.

And, apropos of vacuum cleaners, a country parish made a substantial sum of money by buying one and renting it out. In six months it had paid for itself and was engaged far ahead.

The Matter of Cold Storage.

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Household Economics—Continued

definitely, but deterioration begins with the change of temperature. Therefore it is important that food should be consumed as soon as possible after leaving cold storage. If it is not practicable to do this, it must be kept upon ice until used, or you run unknown risks with it. And prudence would indicate patronizing large establishments where the sales compel the constant renewal of the stock of perishable goods.

Impromptu Heating.

If September has its warm days, it has also many with an ominous chill, at least at night and morning, the sort of days when out-of-doors is warmer than it is in the house. The ideal thing is an open wood fire in every room, but few realize ideals. There are mushroom shaped

heaters, which screw to a chandelier, which are as satisfactory as any sort of gas heating, involving as it does a certain amount of exhaustion of the oxygen of the air of the room, but these demand a gas supply and many houses have only electric lighting. An excellent makeshift is an oil lamp, well turned up and set, not upon a table, but upon the floor. I have seen a country dining room comfortably heated in the course of an hour by this device. The point in setting it upon the floor is that the warm air rises, and a lamp set upon a table heats the region of the ceiling, not the inhabited zone of the room.

The Medicinal Apple.

Apples are at their best in September, and it is well to remember that they are medicinal as well as palatable, as they act upon the liver and the blood, improving digestion and circulation alike. Apples are the most digestible of fruit and can be assimilated by people who have very delicate stomachs. An apple eaten the last thing at night induces sleep as well as a glass of milk, and to do its best work should be eaten with the peel on.

The best apple to eat uncooked is crisp rather than mealy, a pippin rather than a greening. And to be at its best an apple should be cold. Most people do not realize how much fruit gains by being chilled, particularly fruits of the fleshy sort. Note the difference between a banana, ice cold, and the same thing luke warm.

The Risk of Dry Cleaning.

At the Decorative Art Society, in New York, where they make a specialty of washing fine laces, the writer was told that they used only soap and water, stretching the lace into place on a padded board, pinning every point and picot, leaving it to dry. The information was added that laces which had been dry cleaned were ruined by being washed, the fibres being saturated with naptha which, combined with the soap used for washing with disastrous effect. The moral would seem to be to restrict the sphere of dry cleaning to silks and woollens and to gloves, using the more primitive process for cottons of all sorts.

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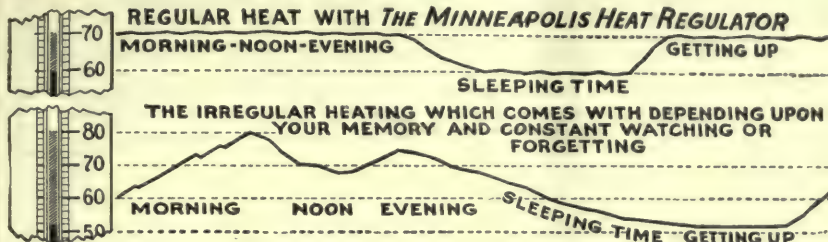
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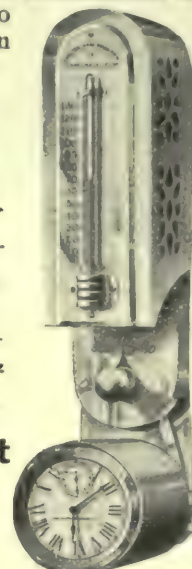
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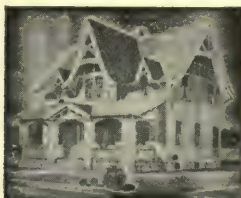
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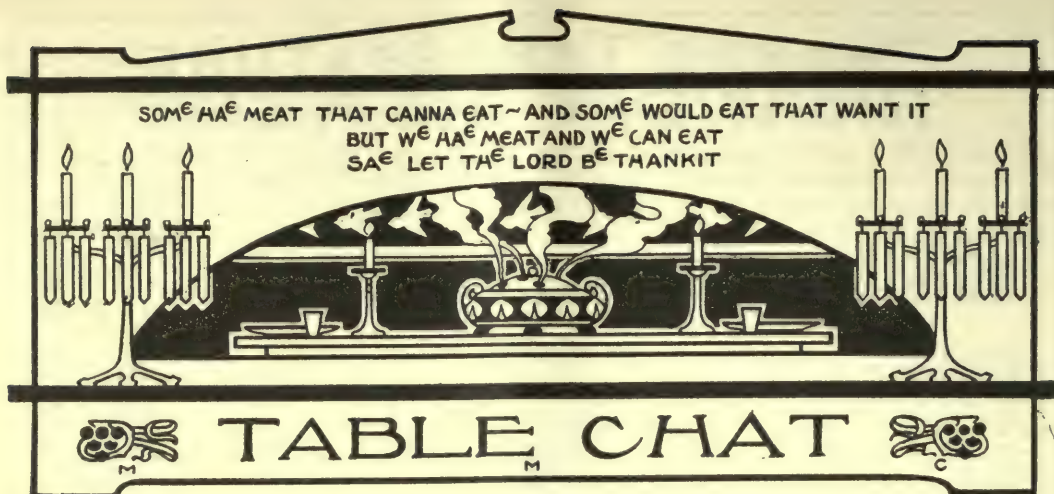
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Piazza Teas.

THE early fading of daylight makes dinner out-of-doors rather difficult in September, but a piazza tea is a pleasant function with which to inaugurate the autumn. Naturally such an entertainment has its limitations, as piazza space is not capable of much extension. The very fact of its limitation makes it possible to have a more tempting menu than when an indefinite number are to be provided for.

The table should be spread in a corner sheltered from the wind, possibly with porch screens drawn down, and its top should be bare, except for a center piece. The colored embroideries on natural, crash or linen are specially effective for out-of-doors, and so are the braided mats of raffia with bright colored strands introduced here and there. It is possible to do some charming things with birch bark, the silvery side out. There is no prettier center for such a table than a canoe of birch bark filled with ferns. Another effective center is a low bowl of brown pottery (a jardinière will answer), filled with autumn flowers in the many shades of brown and yellow, and this is especially good with raffia mats. Or, if one's china happens to be blue, one may use the birch bark for mats and fill the canoe with the frail blooms of white cosmos.

For such a tea, to which you will invite say a dozen guests, have in addition to the usual sandwiches and cake, something hot served from the chafing dish, or

a casserole. One of the Newburg concoctions is always acceptable. Or you may have creamed chicken or fish, serving with it highly flavored red sandwiches of some sort, also olives and little radishes. The sandwiches may be green pepper ones or those of anchovy paste. With a high tea, coffee seems more suitable than any other beverage. Tea is less and less drunk with meals, and chocolate does not seem to go very well with substantial. Cake of some kind one must have, and let it be fresh from the oven, and of a sort that can be eaten in the fingers.

The Return of the Oyster.

Although they say the old notion that oysters are unwholesome in the months without an R is an exploded superstition, we most of us stick to it, August and all, and only indulge after September comes in.

Every one is familiar with fries and stews and scallops, but how many people ever make an oyster pie? Use a rich paste and an ordinary agate pie plate. Line the plate with a very thin sheet of paste and fill it with oysters drained from their liquor, peppered and salted. Pour over them half a pint of sauce made in the usual way, with equal parts of oyster liquor and cream. Cover the pie with a thick crust, cut a hole in the center and bake it until it is well browned.

Then there is a croustade. You trim the crust from a long loaf of baker's bread, what is generally called a pan loaf, and with a sharp knife cut out the

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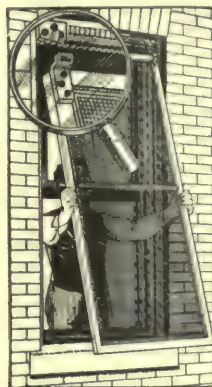
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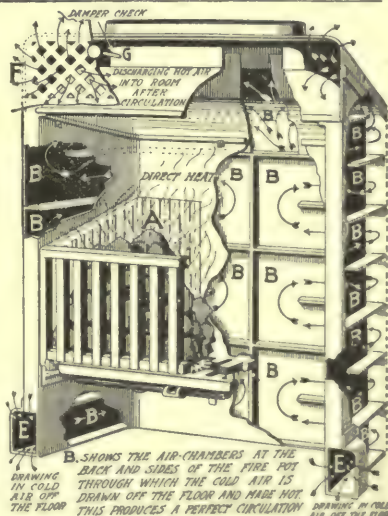
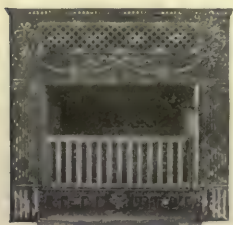


Table Chat—Continued

center, leaving a wall an inch thick. Butter the outside liberally, and brown it in the oven, occasionally basting it with oyster liquor. Fill the cavity with hot creamed, or Newburg, oysters, and serve with cold slaw and tomato catsup.

Now for a variation on the familiar scalloped oysters. Butter a casserole. Drain a quart of stewing oysters from their liquor, strain the liquor and add to it two tablespoonfuls of unsweetened condensed milk. With butter and flour and the liquid, make a cream sauce, seasoning it

highly, adding to it three tablespoonfuls of canned mushrooms cut small. Spread and slice a baker's loaf of brown bread, removing the outer crust, and cutting the slices into sections which can be fitted into the casserole. Arrange the dish with a layer of brown bread and a layer of oysters until it is nearly full. Add the sauce and cover with a thick layer of finely rolled uncooked cereal, dotting it with bits of butter and bake until the crumbs are browned.

Oysters cooked in their own liquor until they curl, chilled and cut in slices, make a very good salad, with lettuce and mayonnaise.

And, lastly, in making a cold meat pie, discover for yourself the delightful effect of a cupful of oysters and their liquor put in just below the upper crust, and allowed to penetrate the mass below.

Peach Salad.

An unusual salad is made from fresh peaches, preferably white ones, ripe but not soft. Peel them and drop them into cold water to prevent discoloration. Arrange a bed of lettuce leaves, the whiter the better, and cut the peaches in thick slices, slipping each slice carefully off the stone. Arrange them on the lettuce, cover with a thick white mayonnaise, and sprinkle with chopped nuts. Serve with hot crackers and cream cheese.

Fried Green Tomatoes and Peppers.

It is a recent discovery that green tomatoes are quite as good fried as the ripe ones, and more easily managed. Green peppers, the sweet variety, are not as well known as they ought to be, except as material for pickles. With the seeds removed, and fried in olive oil, they are a delightful accompaniment to a steak or to chopped beef cakes. In cities, they are rather expensive, unless one penetrates to the Italian quarter, where they are sold in baskets at much less than grocer's prices.

A chopped green pepper is a pleasant addition to corned beef hash and to scrambled eggs. You can make very good impromptu pickles by chopping three small green peppers, a pint of white onions and half a small cabbage, sprinkling it with salt and pouring over it a cupful of cold slaw dressing.



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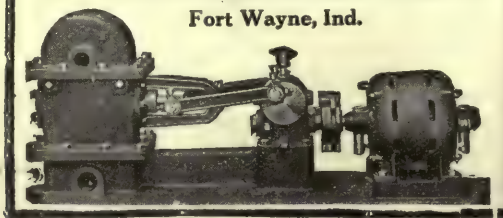
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The Handling of Concrete During Hot Weather.

Those who have had extensive experience with concrete construction and in the manufacture of cement products, are familiar with the difficulties that arise due to weather conditions, and realize that at different seasons of the year some variation in the methods of mixing, placing and protecting concrete is necessary. Too often these facts are acquired and impressed upon the user through some unfortunate, costly experience, and a word concerning the proper handling of concrete work during the hot summer months should be of interest and profit to the inexperienced and those not familiar with the characteristics of concrete.

To obtain the maximum strength and the best results with a properly proportioned concrete or mortar, a certain amount of water is essential and the material must receive special attention with regard to curing during the first few days. Just how much water is required is not definitely known, but it is generally conceded today that wet mixtures are the best for nearly all classes of construction and that, as a general thing, sufficient water is not used in the manufacture of practically all machine-made cement products. This being the case, it means that during the hot summer months when the loss of moisture through absorption and evaporation is a maximum, special precautions should be taken in protecting the work from such losses, and a little more water should be used in the mixture.

Next in importance to proper proportioning and mixing the materials with sufficient water, is curing, and it must be remembered that unprotected, improperly handled green concrete may be permanently damaged by the weather

conditions prevailing during the summer months as well as by freezing. A comparatively slow, uniform rate of hardening in a warm moist air is desirable. Wet mixtures harden a little more slowly than dry, heat accelerates the rate of hardening, and a too rapid rate of hardening is accompanied not only by a loss in strength, but also by the formation of unsightly, if not injurious, shrinkage cracks.

The above facts can be easily demonstrated with a few pats or thin cakes, about one-half an inch thick and four inches in diameter, made from a mixture of cement and water and placed upon small pieces of glass. Cover one pat with a damp cloth in such a manner that the cloth, which should be kept wet for at least twelve hours, does not come in contact with the pat. Place another pat out in the sun, but protected from air currents, and the third in a strong draft or in front of an electric fan. In a short time the latter two pats will be covered with shrinkage cracks and at the end of twenty-four hours these pats will not be as strong or as satisfactory in any respect as the other, which will be absolutely sound and of a uniform color. The condition of these three pats is representative of what may be expected from improperly handled concrete work, and work that has been properly sprinkled and protected from the sun and air currents for a few days. The manufacture of concrete blocks in a number of places in Mexico and Texas was a total failure until they realized that in their hot, dry climate more water should be used and special attention given to the curing of the product.

The marked difference in strength between a wet and a dry mixture and the increase in strength due to sprinkling alone, is clearly shown by the results of



Asbestos "Century" Shingle Roof—Residence of J. H. Briggs, Sea Gate, Coney Island, Brooklyn, New York; Squires & Wynkoop, New York, Architects; P. J. Van Note, Brooklyn, Contractor

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Cement—Continued

tests recently made by this company on cement tile. The seven-day strength of tile made of a wet mixture was over twice that of similar tile, except of a drier mix, and the fourteen and twenty-one day tests show an increase of fifty-nine per cent and seventy-nine per cent, respectively, for the wet over the dry mix. Tile made of a dry mixture that were properly sprinkled, at the end of seven days were eighty per cent stronger than similar tile not sprinkled, and at fourteen and twenty-one days there was a difference in strength in favor of the sprinkled tile of fifty-five per cent and over one hundred per cent respectively; the increase in strength being due entirely to the proper curing of the tile by sprinkling with water. The same was true with tile made of a wet mixture, but the increase in strength of the sprinkled over the unsprinkled was not quite so great in this case.

In the construction of thin sections where a large surface area is exposed, such as concrete floors, roofs and sidewalk work, special care should be taken during hot weather to see that the work does not harden or dry out too quickly. Use plenty of water in mixing materials and see to it that the coarse aggregate, which at this season of the year is hot and dry, is well drenched with water before being used, otherwise it will absorb a large amount of the water the concrete should have, especially if a limestone or sandstone aggregate is used.

The forms and surfaces against or upon which concrete is deposited should be wet, and when concrete is used in

connection with tile they should be thoroughly soaked with water just before the concrete is laid. As soon as possible the work should be sprinkled with water, and it should be well sprinkled at frequent intervals for at least four days. Where possible, the surface should be protected from the sun and wind for at least the first day or two, and quite often a covering of wet sand or straw is found to be effective, if not absolutely necessary, in preventing shrinkage cracks.

Cement plaster construction should not be allowed to dry out too fast, but with this type of construction, shrinkage and drying cracks in any but the finish coat are not objectionable. To insure satisfactory work of a uniform color, the finished work should be protected from rapid drying, the sun and wind, by a curtain of some material, which should be kept wet and hung a few inches away from the surface of the work.

Machine-made concrete products, such as brick, block and tile, and those made with a dry mixture, require special attention during curing in hot weather. The mixtures from which these blocks are made do not contain sufficient water to start with to produce the best results, hence every precaution should be taken to see that none of this water is lost by absorption or evaporation. The manufacturer who adheres to an iron-clad rule as to storage and sprinkling at all seasons of the year will find that the quality of his product will vary with the weather conditions. During hot weather the finished work should be left inside or protected from the sun and dry cur-



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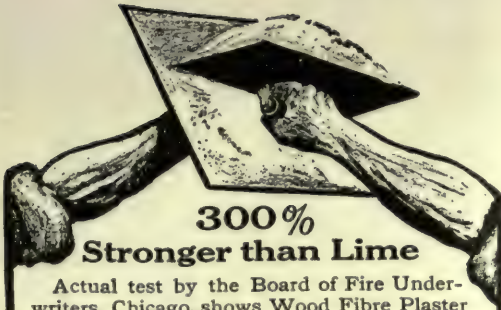
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Cement—Continued

rents of air for an additional length of time over that considered necessary during the comparatively cool damp spring and fall weather. Sprinkling should also be more thorough, more often and continued over a longer period. Too much water cannot be used for curing, and to insure a strong product of a uniform color the treatment must be uniform.

Do not complain of the cement being quick-setting if you find that it is not possible to lay and finish in one operation as large an area of sidewalk on a hot day as on a comparatively cool one. Remember that during hot weather, cement work hardens much more rapidly, due to the heat and to drying out through absorption and rapid evaporation, and let the weather conditions be a governing factor in the handling of your work. As a general thing, use more water, pay more attention to curing and protect the work from the hot sun and dry winds until it has attained sufficient strength to withstand their harmful effects.

This is the most advantageous time of the year to carry on concrete construction, but, to insure satisfactory results, certain minor precautions are necessary.

Hints on Constructing Cement Sidewalks.

The following hints have been taken from a paper by Mr. N. E. Murray, presented at the last annual convention of the Illinois Society of Engineers and Surveyors:

Before constructing cement walks on a foundation that has been traveled over for several months, "pick up" the entire

surface, flood and retamp it. The reason for this is obvious. On filling of this character the foot travel generally follows one well defined line, usually in the centre, which becomes solid and well packed and will not "settle" under additional weight; while the filling to either side of the center, on being given additional weight, usually settles sufficiently to cause a crack lengthwise through the walk, unless the entire surface is loosened and retamped to a uniform density before the concrete is put on.

A successful contractor states that in cold weather he mixes the concrete as dry as it is possible to have it, and then puts in the base in two courses, tamping each course separately—in this way obtaining a more uniform density in the concretes, and as a result has never had to record a "failure" in his work. Better results will be obtained and fewer walks with loose and cracked wearing surfaces would be seen if workmen could be made to understand that a wearing surface will not adhere to, or form a bond with, a base covered with loam or dirt which they have "tracked" over it either through carelessness or in order to save a few steps.

Clean cut joints between the slabs and expansion joints adjoining the curbs at streets and alley returns, and at frequent intervals in long stretches of walk, are absolutely necessary if broken curb stones and broken slabs in the walks are to be avoided. Expansion joints at street and alley returns can be eliminated by constructing the curbing with a "recess" into which the sidewalk slab may be laid.

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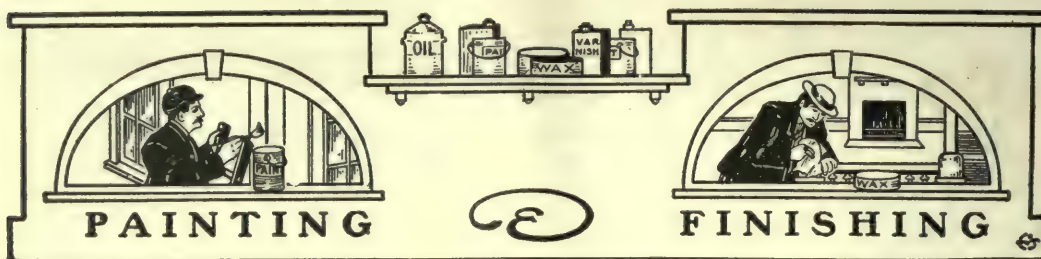
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It is good if it smells of turpentine, it is light in color, it makes the paint dry quickly, the paint will have a smooth and elastic surface, it will not burn the life out of the paint, it won't crack or gum pots and brushes, it will mix readily with linseed oil, will not settle or precipitate, and it will dry free of tackiness. When dry it will not scratch under the thumb-nail test. It ought to be tough and firm. Do you use a drier having all or most of these qualities?

Petroleum Bronzing Fluid.

If copper is thrown down by the galvanic process it is in the state of an impalpable powder. If this powder is mixed in a solution of gums or resins in coal oil the result is a varnish or lacquer that not only completely covers wood, plaster of Paris, cement, cast or wrought iron, etc., but dries quickly and within 24 hours loses entirely its odor according to a German technical publication. The lacquer, after becoming dry, has an agreeable appearance, and accordingly as it is treated with more or less of a solution of liver of sulphur, it takes on all the possible tones of bronze. In this manner the finest details of genuine bronze may be imitated on statuettes, ornaments, etc., so skillfully as to defy detection. It may even be used, mixed with white zinc, for house painting purposes. The thinning may be done with benzine.

Silvering a Mirror.

There seems to be considerable of this work done by painters, as we have calls for the method of doing such work, particularly repairing old mirrors. While full directions can be given, yet it is no easy matter to do the work successfully without considerable practice, easy as the directions may read. The French Acad-

emy of Sciences some time ago offered a prize for a method of doing this work perfectly, yet in a way that would not injure the workman's health, as the ordinary process does, through the inhalation of the mercurial vapors. The prize was awarded to a Mr. Lenoir, whose process is substantially as follows: The glass is first silvered with tartaric acid and ammoniacal nitrate of silver, and then exposed to the action of a weak solution of double cyanide of mercury and potassium. When the mercurial solution has spread uniformly over the surface fine zinc dust is powdered over it, which promptly reduces the quicksilver and permits it to form a white and brilliant silver amalgam, adhering strongly to the glass, and which is affirmed to be free from the yellowish tint of ordinary silvered glass, and not easily affected by sulphurous emanations.

Best Pigments for Water Paints.

Light specific gravity pigments are best for kalsomine work, such as whitening, terra alba, China clay, asbestine, plaster of Paris, soapstone, silica, zinc white, lithopone, etc. These may form the base, while coloring may be made from any pigment not affected by the base that has lime in its composition. Lime hurts Prussian blue, chrome green, vermilion, etc. The binding or size used may be either one of the following: Glue, gelatine, flour, starch, molasses, dextrine, gum tragacanth, sugar, honey, milk, beer, Iceland and Ireland moss, glucose and shellac, according to the nature of the work. Gum tragacanth would be rather costly for ordinary work, but it is about the finest binder in the list.

Paints That Withstand Heat.

At an annual meeting of the Pacific Coast Gas Association the following paints were recommended as being able

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There is a keen pleasure in possessing beautiful woodwork. For it gives refinement to the home. It is the setting that makes things look right—the tell-tale of the owner's taste and judgement.

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Painting and Finishing—Continued

to withstand anything up to a red heat, and therefore suitable for painting exhaust pipes and mufflers. Mix together lampblack 3 lbs., graphite 3 lbs., black oxide of manganese 1 lb., japan gold size 1 pint, turpentine 1.5 pint, and boiled linseed oil 1 pint. Use powdered graphite, and mix the ingredients to a uniform consistency. Give two coats. Another formula is as follows: Black oxide of manganese 2 lbs., graphite 3 lbs., terra alba 9 lbs. Mix dry and pass through a fine sieve, then mix to the required consistency with the following compound: Sodium silicate 10 parts; glucose 1 part; water 4 parts.

Sizing Over Paint.

Instead of glue sizing direct on the wall when it is not perfectly dry, being subject to damp, prime the wall first with thin oil paint, and when this is dry apply the glue size. This is often done, on the theory that the dampness will not affect the glue if placed over paint, or at least not so much as when placed directly on the plaster. To glue-size a painted wall, however, is to probably have the surface dry out patchy, the glue making a hard surface on those parts that are well filled with paint, while the parts which are more porous may not be well filled, and will allow the paint to sink in.

Steatite Paint.

Steatite or soapstone has been recommended as a suitable pigment for a paint for protecting iron or steel and wood, it not being affected by the atmosphere as most pigments are. It is not affected by heat, cold, frost, air, gas nor acids, and when mixed with a good or suitable vehicle, say a good varnish, the paint will be in the form of an enamel, beautiful and durable, so it is said. Such a paint flows nicely, and attaches to metal or wood with great tenacity. It is well worth trying, at any rate.

Mending Cracks in Plaster Walls.

The plaster of Paris should be mixed with thin glue size to the condition of putty; fill the cracks with this, and when it has become hard dry coat over with white shellac. First sandpaper smooth.

Large cracks will have to be cut out or keyed to hold the plaster, and as the plaster shrinks more or less in drying, it is well to go again over it, with the plaster, then when dry rub smooth and shellac, if for a painted wall, or not if it is to be water-colored or distempered.

A Good Floor Paint.

To ordinary oil paint add Portland cement, preferably, or even plaster of Paris, which will give you a hard-wearing floor paint, and the quality may be further increased by using benzine instead of turpentine, with some raw oil and driers. Never use boiled oil in a floor paint. As a base yellow ochre is very good, and better than lead, being harder; if lead is used, then add zinc also.

Restoring Color to Faded Marble.

The faded colors of marbles may often be quite restored by washing with the strongest soap, lye and quicklime, about the consistency of milk. Let the mixture remain on the marble about 24 hours, and then wash off with soap and water, rinsing with clear water, and wiping dry with a chamois. This should make the marble nearly if not quite as handsome as when new.

Bronzing Iron Work.

Here is a good formula: To a pint of alcohol add four ounces of gum shellac and one-half ounce of gum benzoin; set the bottle in a warm place, and shake occasionally. After the gums have dissolved allow the mass to settle for two days in a cool place. Now pour off the clear part into another bottle and keep corked for the finest work. To what was left in the first bottle add enough alcohol to make it work easy, strain through a fine cloth, and use it as a first-coater. Now take one-half pound of finely ground bronze green, varnish sufficient, and add the coloring matter. If possible, warm the iron a little and apply the bronze with a soft brush; repeat if necessary. Then a coat of varnish to protect the bronze. The color of the bronze may be varied by using lampblack, ochre, etc.

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"There is no art to find the mind's construction in the face." — Macbeth.

— BUT —

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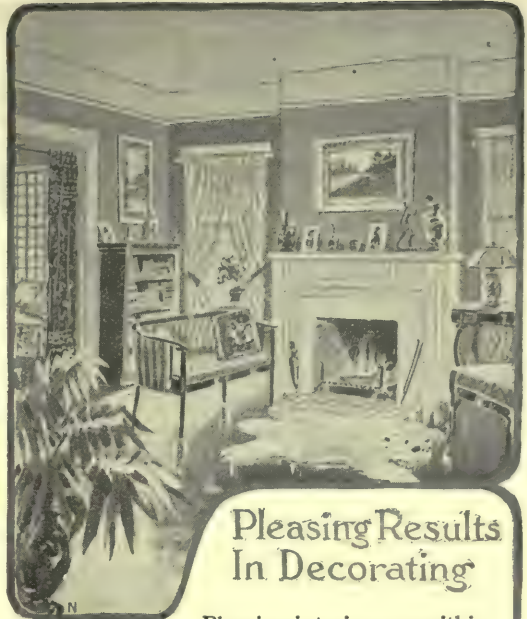
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CHIMNEY FLUES.

The chimney flue is a most important factor in the successful operation of a steam or hot water heating apparatus. Its functions are to produce a draft for proper combustion, to burn the gases from the fuel within the boiler, and to carry off the smoke.

Proper combustion and ignition and burning of the gases within the boiler depend upon the height; properly carrying off the smoke depends upon the size. The value of the flue depends on the volume of the passage due to area, the velocity due to height. Velocity alone is no proof of good draft, there must be also sufficient area to carry off the smoke.

Best results are obtained from the round chimney. Next in order of efficiency comes the square flue, while the oblong is the least effective. An oblong flue should never have less than eight inches depth, and better results will be obtained if the smoke pipe enters on narrow side, as this will allow the smoke and escaping gases more room in which to change their course from the horizontal smoke pipe to the vertical flue. A flue of less than eight inches depth will not allow freedom for this change.

The chimney should be at least eight inches in depth and never less in area than size of smoke pipe of boiler.

The area of flue should never be less than 9 or 10 inches round, or 8x12 rectangular, except for a small heating apparatus or tank heater, for which an 8 inch round or square flue of sufficient height will answer. It is good practice to have the chimney of a little greater area than that of smoke pipe from boiler.

The chimney into which the boiler smoke pipe connects should have no other opening, either above or below boiler smoke pipe opening.

The chimney should extend above the

highest point of the roof of building and other immediate surrounding elevation. It should be located with reference to near-by buildings so that wind-currents will not form eddies and force the air downward in chimney.

Better draft is promoted by a revolving or shifting chimney cowl, which always turns the outlet away from adverse currents.

The chimney flue should be straight and the area maintained full size from base to top outlet, free from all obstructions, such as loose or protruding brick or mortar, free of sharp bends and offset, and if provided with cap, galvanized top or ornamentation of any sort, area of same should be the full area of flue.

The chimney if built of brick should be at least 6 inches in thickness, and the inside should be finished smooth to prevent loss of velocity by friction. If tile lined either round or square, the joints should be tightly cemented, or space between tile and brick-work filled in solid, to prevent open crevices between sections of tile.

The smoke pipe from boiler should not extend into the chimney beyond the inside surface of the flue, otherwise the protruding end of the pipe cuts down the area of the flue and interferes with the draft. The joint where the boiler smoke pipe enters chimney, (as well as where it fits smoke hood of boiler) should be made tight with boiler putty or asbestos cement.

If the chimney contains more than one flue, the division walls forming the boiler flue should extend from base to top of chimney, so that boiler flue is independent of others throughout its entire course.

If the chimney is provided with a soot-pocket above the boiler smoke pipe opening, the clean-out door should fit tightly and always be closed.

The soot-pocket for the boiler flue or

Feeds Coal in at the Chimney

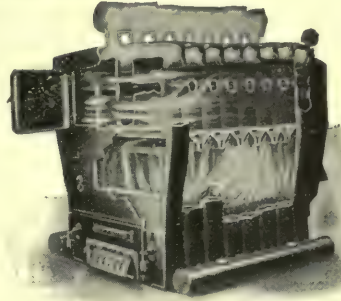
For every shovel of coal you put in the fire-box of a "**RICHMOND**" boiler, a *half-shovel is fed back from the chimney.*

It is automatic. It costs you nothing either for the feeding, *or for the coal.*

It is accomplished by our exclusive device known as the "diving flue."

The "diving flue" takes the unburned smoke and gases and holds them back to burn.

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We spend from three to seven times as much as other makers do for a smoke box. But our "diving flue" does three to seven times the work of other flues.

It catches the rich unburned gases as they are about to escape—and holds them back to make more heat.

The economy of the exclusive "diving flue" is only one of many "**RICHMOND**" economies.

You will find that common heaters are perched on separate bases, and that the cold water enters them at the fire level.

The "**RICHMOND**" has no separate base. It is solid from the floor up.

Stronger construction—less weight—greater durability.

And the water intake of the "**RICHMOND**" instead of being at the bottom of the *fire-box* is at the bottom of the *ash-pit*. The benefit is greater than appears at first sight.

Heat from the Ash-Pit

The incoming water absorbs the heat of the ash-pit—*free* heat, which would otherwise be wasted.

And more:

It reaches the fire-box level, already warm—so that it does not chill the fire. Look in your present boiler and you will appreciate the value of this.

In a rim around the edge, you will see two inches or more of dead coal or ashes—*where the cold incoming water chilled the fire.*

With the "**RICHMOND**" there is no deadened rim of fuel—nothing to clog the fire-box and decrease its capacity and the warmth of the ash-pit is utilized *free*.

The "**RICHMOND**" system represents the climax of inventive ingenuity—*practical* ingenuities that prove their worth in fuel economy—flexible service—heating satisfaction.

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Heating and Plumbing—Continued

chimney should be separated from and closed against openings from fireplaces or other connections which would check and prevent proper draft for boiler.

The boiler should be set as near the chimney as possible, for it is desirable to shorten length of smoke pipe.

The opening into the chimney should be slightly higher than the opening into the boiler, thus giving a slight rise or pitch in direction of the chimney.

The boiler should not be placed in too small a room in the cellar; it is well to have a large space in front of the boiler to permit proper supply of air to the fire through the ashpit door.

Plumbing and Heating Service.

One of the first requisites of a good job of plumbing is that the pipes be thoroughly clean on the inside. They must be well jointed, soldered and cemented, so that neither solder nor cement shall roughen the interior and make way for future trouble. The soil pipe should start from the end of the drain pipe, at least three feet outside the basement wall, and run to a point under the bathroom, whence it should be carried as directly as possible to the roof. The waste pipes should run straight, and where elbows are required they should have clean-out plugs near them, so that access can be had to the pipes in both directions. Supply pipes should always be exposed, and if they run from the streets through the wall, there should always be a shut-off. Branches to sill cocks should always have a stop and waste, and hot water pipes should parallel cold water pipes to all fixtures.

Where the cold water pipe enters the hot water boiler there should be a shut-off, but shut-offs are no longer put in at fixtures, because of the liability to corrosion. The supply pipes should be run in such a manner that when the water is shut off from the street, and the faucets are open, the pipes will be entirely drained.

Cushioning Water Hammer.

The pressures to be dealt with in American plumbing practice vary through a wide range. The power exerted by a column of water suddenly arrested is almost always great enough to make the pipes quiver and rattle from end to end and for safety, as well as for convenience, we must make some provision for cushioning the water hammer. An air chamber, always useful, because a necessity when heavy pressures are dealt with. These are commonly made by carrying the pipe from 15 to 20 inches above the cock or valve, and in this added length the air is compressed, making an elastic cushion upon which the blow expends itself harmlessly. This, at least, is the theory of the air chamber. Now in practice, where there are heavy water pressures, these air chambers often fail precisely as they sometimes fail in steam fire engines. The air in them is gradually carried out with the water which surges up into them, and when they are full of water, the water hammer, as it is called, is not cushioned, owing to the incompressibility of water.—From House Drainage and Water Service, by J. C. Bayles.



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SPLINTERS AND SHAVINGS

Government Cruising National Forest Timber in Southwest.

From the U. S. Department of Agriculture, Forest Service.—The U. S. Department of Agriculture has undertaken the task of estimating the present stand of saw timber on each township and section of National Forest land in the states of Arizona, New Mexico, Arkansas, and Florida. It will probably take until the close of the year 1912 to complete the work, but when it is done the Government's foresters will know definitely how much timber can safely be cut from the National Forests in these states, and just where the timber is that can be most advantageously sold.

When a forest has once been covered by such a reconnaissance, purchasers and Forest officers can agree on negotiations for timber sales, advertisements of the timber can be placed, bids made, and contracts let. Up to the present time, in Arizona, all the saw timber on the Coconine Forest has been cruised, including the Grand Canyon Division, all on the Prescott, more than half of the Sitgreaves, about one-fifth of the Apache; in New Mexico, the Gallinas Division of the Lincoln, and half of the Pecos. Field parties are now at work in Arkansas on the Arkansas National Forest, and in Florida on the Choctawhatchee.

During the present field season it is anticipated that the estimates covering the Apache, Gila, and Pecos, in New Mexico, and the Mount Graham Division of the Crook, in Arizona, can be completed, and that for the Manzano, in New Mexico, which was estimated in 1908, thoroughly revised. During the winter of 1910 and 1911 undoubtedly the Choctawhatchee and Ocala, in Florida, and the Arkansas and Ozark, in Arkansas, can be finished. Thus, it is likely that by 1913 all saw timber in District 3, which comprises the forests of the South and Southwest, will be cruised and mapped so that purchasers can negotiate sales promptly and the Government will

know just what timber should be sold first and how much it can safely dispose of.

Cement for Mending China.

One of the most effective cements for mending china is white oil color, which is sold in tubes and used for painting. Paint the broken parts with the oil, press them in position and the operation is complete. Put aside for six weeks to dry, and neither heat nor cold nor moisture will affect it.

Architect's Increasing Responsibilities.

The architectural and building press are awakening to the fact that the architect's position in society and his relationship to the building public have been gradually but constantly changing, and that much more is required of the man who today assumes the responsibilities of the profession than were demanded of him even 25 years ago.

A few years ago all that was required from an architect was a pretty, artistic set of plans and pictures and a blanket estimate of costs. These estimates were only to be used as a sort of guide as to the probable cost and were not required to be anything more than approximations.

But not so today. The responsibilities of an architect have increased an hundredfold within the last few years. Whereas then all that was required was a careful draftsman and artist, now it is absolutely necessary for an architect to be perfectly acquainted with business methods, to be an expert in mechanics, and to be able to get a statement of costs, with a minimum degree of error. He is expected to be able to answer any inquiry propounded to him either by client or contractor. The materials called for in the specifications shall be designated by him with the utmost accuracy.

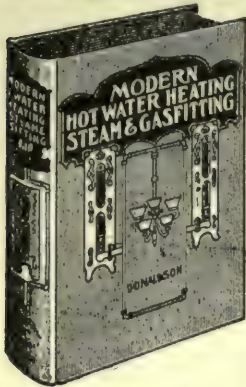
Remodeling an Interior Door.

It sometimes happens that an interior door is to be changed, say from a plain four-panel to a six-panel affair, and in-

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The closing chapter, devoted to useful hints, contains information on a variety of subjects which will be found of interest and value to the workman, as will also the many useful tables at the end of the volume.

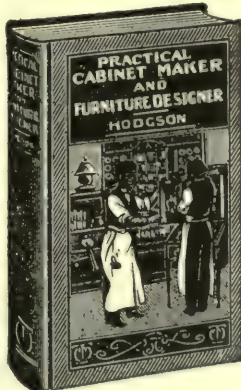
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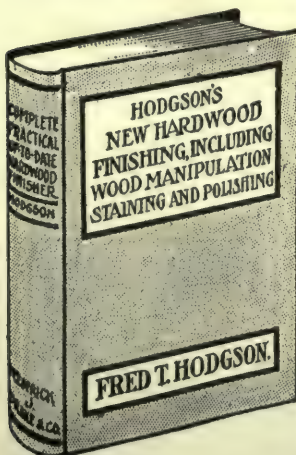
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David Williams Company, New York.

Concrete From Sand Molds.

By A. A. Houghton.

Inexpensive methods of casting ornamental concrete are tested in this book, showing just how the molds are constructed and the sand handled to produce the result. The text matter is very plain and easy to understand and the many illustrations carefully drawn. There are fifteen chapters contained, covering the many phases of the subject. Attractively bound in cloth. The book should be valuable to workers in ornamental concrete. Price \$2.00.

The Norman W. Henley Publishing Co., New York.

Roosevelt Cement Mill Closed Down for Good.

The Government Cement Mill at Roosevelt, Ariz., completed the grinding of the last pound of clinker on April 28, and will probably be dismantled at once. It has been in operation nearly five years, and has produced 330,000 barrels of cement, most of which has been furnished to the contractor building the Roosevelt dam. The remainder has been used in the power house, canals, flumes and auxiliary structures. The mill was built on account of the high cost of transporting cement to the site, which is quite inaccessible. The government engineers estimate that the mill has saved about \$650,000.

Civil Service Examinations.

Draftsman (Marine Engines and Boilers).

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Applicants should at once apply to the United States Civil Service Commission, Washington, D. C., for form 1312. No application will be accepted unless properly executed and filed with the commission at Washington. In applying for this examination the exact title as given at the head of this announcement should be used in the application.

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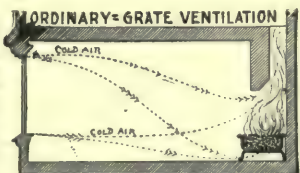
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BOOK NOTICES

When Love Calls Men to Arms.

By Stephen Chalmers.

This is a romantic story of the highlands of Scotland beginning about the year 1588. The defeat of the Spanish Armada is an incident and the landing of a Spanish nobleman, a survivor of the fleet, is the beginning of events which make a very interesting story. The bitter feeling between the Scottish clans is at its height and the writer gives a very vivid picture of the times. The love story of two generations is told in a touching and homely manner losing nothing by the dialect employed at times. Tragic as many of the situations are, the humor of the book is irresistible. The Scotch lawyer who in the midst of the most serious and dangerous incidents asks the disputants, "Will ye no take snuff?" is extremely funny. The book will appeal to the sturdy Scotch people and their many admirers. Price, \$1.50.

Small, Maynard & Company, Publishers, Boston.

* * *

A Splendid Hazard.

By Harold Macgrath.

A story founded upon the possibility of a direct male descendant of Napoleon and its effect upon the future of the French nation. A German and American war correspondent meet at the tomb of Napoleon. Both admirers of the great soldier, they dine together. Later they meet in America at the home of a retired American admiral, the German as his secretary and the American as his guest. Pirates and buried treasure are a hobby with the millionaire admiral who has the most complete library upon the subject in existence. His beautiful daughter is the girl in the case and she has come upon a mystery in their home. A noise of tapping about the fireplace at night leads to an investigation which reveals a box in which are certain old papers and French decorations. It is stated that upon the island of Corsica is buried a trunk containing a fortune

which was to have been used to rescue Napoleon from St. Helena and restore him to power. But now all are dead and the money may be still buried. A secret agent of the French government is introduced and in his character as a French gentleman is invited by the admiral to join his party to the Mediterranean on his private yacht. Plots and counterplots are developed and a member of the party proves to be a direct descendant of Napoleon by way of the left hand, but still a descendant. What the excitable French people would do is problematical, if he were suddenly introduced into their midst in a spectacular manner. The money is recovered and the descendant allows the possibilities of the situation to influence his better judgment. The American correspondent figures largely in the situation and in the affections of the daughter. To make the ending too apparent would be to rob the reader of the pleasures of deduction and speculation. It is a strong book, well written in the characteristic style of the author. Price, \$1.50.

The Bobbs Merrill Co., Publishers, Indianapolis, Ind.

* * *

The Window at the White Cat.

By Mary Roberts Rinehart.

The appearance of a new novel by this author will be welcomed by all who have read her previous work.

The present story is one of absorbing interest, dealing with a mystery which the reader is utterly unable to solve until the author chooses to have it so. The beautiful daughter of a politician appeals to a young lawyer to find her father who has been missing for some days. Her lover is her father's private secretary, a rather weak character. Her aunt disappears and her father is murdered. In each case all clues seem to come to naught. The lawyer falls in love with the girl and takes a very large interest in the unraveling of the tangled skein. The worthless lover, very accommodately betakes himself to a far country at the psychological moment and the lawyer and the girl discover their mutual regard for each other. Price \$1.50. The Bobbs Merrill Co., Indianapolis, Ind.

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ON HOME BUILDING

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The Journal of Modern Construction

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Contents for October

	Page
EDITORIAL - - - - -	218
A HANDSOME TEN-ROOM HOUSE WITH GARAGE - - - - -	221
THE PLACE RATHER THAN THE NAME (Verse) - - - - -	224
THE GROWING OF SHRUBBERY - - - - -	225
PLANS IN RELATION TO THE FAMILY NEEDS - - - - -	230
STUCCO - - - - -	233
A DAINTY LIVING ROOM - - - - -	238
DESIGNS FOR THE HOME-BUILDER - - - - -	240

DEPARTMENTS

DECORATION AND FURNISHING - - - - -	252
ANSWERS TO QUESTIONS ON INTERIOR DECORATION - - - - -	258
HOUSEHOLD ECONOMICS - - - - -	264
TABLE CHAT - - - - -	268
CEMENT - - - - -	272
PAINTING AND FINISHING - - - - -	276
HEATING AND PLUMBING - - - - -	280
SPLINTERS AND SHAVINGS - - - - -	284
GLIMPSES OF BOOKS - - - - -	288

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A PLEASING PICTURESQUE HOUSE WITH WELL-KEPT LAWN AND SHRUBBERY

KEITH'S MAGAZINE

Vol. XXIV

OCTOBER, 1910

No. 4

A Handsome Ten-Room House with Garage

By Charles Alma Byers

(*Photographs by Lenwood Abbott*)



THE HOUSE FROM THE FRONT. SURROUNDED WITH SEMI-TROPICAL FOLIAGE

BARNES & RUST, Architects

NOT every family can possess an automobile, but for those who can, and who are contemplating the building of a comparatively inexpensive home, here is an excellent suggestion—a garage that is a direct auxiliary of the house and is accessible without having to pass from under the house's roof. The accompanying floor

plans illustrate such an arrangement—a garage, 10x17 feet in size, that is entered by a flight of three steps leading from the rear porch of the house. The garage is provided with three windows, and is in every way constructed to carry out a scheme of harmony. The arrangement, besides affording ordinary conveniences, makes it possible for the owner to



A NEAR VIEW OF COBBLESTONE CHIMNEY AND PORCH PIERS

enter his garage and spin away in his closed automobile in the most inclement weather without getting wet. This feature should be especially appreciated by the physician, who is asked to venture forth in all kinds of weather and at all hours of the night.

The house in question, however, possesses many other points to commend it as a style to the prospective home builder. It is of pleasing and attractive architecture, is substantially built throughout, and is set amid charming surroundings. There are grand old trees, a rustic summer house, and a well kept lawn to help toward giving it a home-like setting.

The house is two stories in height. Being located in Los Angeles, California, it is constructed mainly of Oregon pine and California redwood. The foundation proper, which is converted into a sort of terracing wall, is of gray brick, while the chimneys, porch pillars and porch parapets are of cobblestones. Brick and cob-

blestones do not ordinarily go well together, but here the combination, harmonizing in color, is particularly pleasing. The color scheme of the woodwork consists of a delicate green for the siding and white for the roofs and trimmings—a combination that, with the gray of the brick and cobblestones, produces an unusually artistic effect.

One of the most admirable features of the house, exclusive of the garage, considered from the exterior, is a broad veranda that extends across the entire front and for some distance along one side. This veranda possesses a low, flat roof, and a dark colored cement floor. There is also a small rear porch, besides the customary screened porch, while from the second floor, over the garage, extends a $7\frac{1}{2} \times 18$ -foot balcony.

The house contains ten rooms—five on each floor. On the first floor are reception hall, living-room, dining-room, kitchen and den, and on the second floor are



A CORNER OF LIVING ROOM, SHOWING FIREPLACE AND SEATS



INTERIOR OF PORCH AND ITS FURNISHINGS

three bedrooms, a boudoir and the servants' room, besides the bathroom and several closets. The floor arrangement provides convenient accessibility to every room with all possible space economically utilized.

The reception hall and living room occupy the front of the house, and back of the living room, arranged in line, are, respectively, the dining room and den. A broad arch connects the living room with the reception hall, and sliding doors separate the living room from the dining room. The four rooms have beamed ceilings and hardwood floors, and the dining room and den are paneled. The stairway rises from the reception hall and also from a passageway leading to the kitchen, the two lower sections converging at a midway landing. The woodwork of the

four rooms is finished to resemble weathered oak.

There are numerous built-in features throughout the house, such as window seats, bookcases, cupboards and a dining room buffet with china closets on either side. The living room contains a large fireplace with a mantel of artificial stone of artistic design. The lighting fixtures are of handsome original pattern, harmonizing tastefully with the interior finish.

The total cost of constructing the house was \$6,500, and without considering the garage, which could be dispensed with, if not desired, there is much to commend it as a suggestion to the home builder. It is the home of W. D. Newerf, Esq., of Los Angeles, California, and its designers were Messrs. A. S. Barnes and E. B. Rust of that city.

The Place, Rather than the Name

(By Gertrude McKenzie.)

How well I recollect the night
I called on sweet Miranda;
The room was warm,—she softly said,
“Let's move to the veranda.”

And then that other evening, when
I called on Hilda Lortch;
The room was full,—she coyly said,
“We'll sit out on the porch.”

And what romantic evenings, too,
I spent with May Van Koop;
Her brother had sharp ears,—so she
Would oft suggest “the stoop.”

And then, one evening in the South,
I called on Ella Mallory;
She gently drawled, “I reckon that
We all might try the gallery.”

As memory recalls each scene,
What recollections troop!
There's romance lurking on each porch
Veranda, gallery, stoop!

The Growing of Shrubbery

By Althea Harwin



AN OLD-FASHIONED HOUSE SOFTENED BY SHRUBBERY

IT is only within the past few years that home-builders have begun to realize the value of shrubbery for lawn decoration. The large mansion with spreading grounds has always had its rose beds and masses of flowering shrubs; but the city lot has seemed too closely restricted to give place to anything but annuals, in stiffly outlined beds. Nothing could be worse for the small house, itself necessarily somewhat stiff in its lines. The beds of scarlet geraniums and poppies only serve to call attention to the small

severeness of the little town house, whereas a properly selected and judiciously planted mass of small shrubs lends to its dignity not otherwise to be attained.

What to plant and how to plant it—these are questions of import to the man of limited means who has neither the time nor the money to expend on futile experiment. The answer depends in large measure on the conditions of climate, soil and atmosphere, although there are hardy shrubs that thrive well in any soil, a little common sense having

been planted about their roots. And there are some thoroughly trustworthy nurserymen who will send their customers only such plants as will grow in the locality for which they are ordered. Unfortunately there are other, short-sighted dealers who think more of a sale than of their reputation. Against these it is difficult to guard, and much valuable time may be lost in the adornment of the grounds. For example, a home-builder in the middle or southern part of the United States is impressed with the beauty of the rhododendron, that glossy leaved, generous blooming bush that under favorable conditions attains a height of thirty feet. He is informed that the "catawbiense" is perfectly hardy and will thrive anywhere. He finds that it withstands the winter's snow admirably. He has given its roots protection against frost, and naturally supposes that this is the end of his care. He is pained and perplexed to find that by the

end of summer his handsome plant has withered. He did not know that the roots are more afraid of summer than of winter, and he removed the mulch that would have protected them! The actual American rhododendron *catawbiense* is indeed hardy and will grow anywhere in the temperature zone; but it must be mulched and mulched and mulched again. This is the rhododendron secret. The earth surrounding the roots should be covered to a depth of ten inches with dry leaves, tightly packed and held down by a firm dressing of well rotted manure and rich loam. Some sort of protection on the south, to retard the effect of freezing and thawing during the winter months is necessary, hence a real northern exposure is best. The mulch should be repeated each fall, and never removed.

Next to the rhododendrons, there is no other shrub that is as likely to prove disappointing as is the boxwood, so commonly used in England for hedges and



THE VIBURNUM OPULUS OR COMMON SNOWBALL

decorative plantings. *Buxus* can be grown even in a thin clay soil by proper handling. In the early spring the pot should be plunged in the earth, in the place where the shrub is eventually to grow and allowed to remain until the first of August, when the roots will have filled the pot completely. It should then be taken up and the hole excavated to twice its depth, the bottom strewn with pebbles or broken pottery to insure perfect drainage, and filled about half way up with good soil that is mixed with an equal part of coarse sand. Tap the pot gently to loosen the ball of roots, and plant them at once, filling in with the same soil. The young box will then have two months of mild weather in which to become accustomed to its new abode before the first frost. In very changeable climates it is well to protect the shrubs the first few winters.

Ilex opaca, that handsomest of the hollies, is much easier to handle than either the rhododendron or the box, providing one remembers two fundamental requirements. It must not be transplanted when the ground is cold or even cool, and when it has been removed it has been so weakened that it cannot at once support its full mantle of foliage. Transplanting should be done late in the spring or early in the fall, and one-half of the full grown leaves removed. The holly will grow luxuriantly in localities where ordinary evergreens cannot be made to live more than a few years. This is the famous Christmas holly, whose beautifully shaped leaves and bright berries are so much prized for holiday wreaths. There are several other species of the holly that are good for lawn decoration, especially the *Ilex decidua* which sometimes attains a height of thirty feet, and the "monticola," sometimes called Bead Bush because of its rows of bright red bead-like berries.

In all the middle states the magnolia



ILEX OPACA, HANDSOMEST OF HOLLIES

can be grown successfully in the open, by selecting the proper species and following a few simple precepts in the planting. There is *Magnolia obovata*, the hardy Chinese shrub with purplish blossoms, that thrives well to the north if generously mulched before frost, and the "glauca" that is found in swampy regions from Massachusetts to Florida, and does wonderfully when cultivated. Like the holly, the magnolia is to be transplanted only when the ground is quite warm, and preferably only in the spring. The "glauca" demands abundant moisture and perfect drainage.

Another bushy shrub that provides an abundance of early spring flowers is the *Xanthocerus*, or Chinese Chestnut, that completely covers its bare branches with bloom before even the maple trees

have put on their verdure. It is somewhat tender and will not survive transplanting into chill ground. Once established, it requires very little care beyond the regular fall mulching. It is almost as hardy as the viburnum opulus, or common snowball, that old familiar

There are other shrubs that put on new glory at the end of the season. One of these is the callicarpa, that decks itself with showy violet-colored fruit in the early fall. The benzoin, better known as "spice bush," that is among the earliest spring bloomers, clothing its winter nak-



XANTHOCERUS OR CHINESE CHESTNUT

friend that should have a place on every lawn that is wide enough to afford the space. There are other viburnums that do not spread so far afield, and hence are more suitable for the small town lot. One of these is the "acerfolium," maple-leaved viburnum, a rather slender shrub that displays a mass of brilliant berries and claret-colored foliage in the autumn.

edness with yellow bloom, has transformed its flowers to fruit by early summer and presents a brilliant combination of waxy red berries and green leaves until frost. It must not be confounded with the so-called "sweet shrub," or Calycanthus, the bush that our grandmothers loved because of its odd, chocolate-colored flowers with their delightful

strawberry perfume. The calycanthus is not conspicuous for its fruit, but it makes up this deficiency by blooming from April to August.

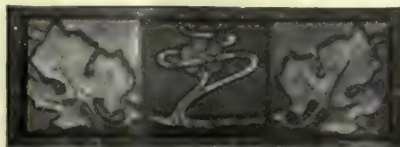
A list of shrubs for the home lawn would be sadly incomplete without at least a bare mention of such trustworthy old friends as weigela, deutzia, forsythia, hydrangea, spiraea and althaea, all of which are easy of cultivation and generous in flower and foliage. One thinks inadvertently of the barberry, and lilac, the flowering almond and syringa. Indeed there are dozens of shrubs that may be used to advantage, especially in screen planting, for softening the outlines of the old-fashioned house or adding dignity to the small new one. Many of the shrubs of more slender growth make excellent backgrounds for irregular flower beds that are to display their color when the shrubs themselves have shed their bloom.

Much depends on the proper planting of even the hardiest of these perennials, and the rules laid down by one of the most successful of shrub growers, Mr. James Gurney of St. Louis, should be closely followed by the home gardener. See that the roots are kept moist and well guarded from sun and air while they are out of the ground. The nurseryman usually looks after his part of this protection. While the ground is being made ready for the reception of the plant, it must not be allowed to lie exposed to such weather conditions as may happen



BUXUS ROLUNDIFOLIA, OR BOXWOOD

to prevail—hot sun, wind or storm. It is wise to dig a trench for the roots of all new trees and shrubs, in which, with a light covering of earth and a thorough wetting, they may rest for several hours before being set in the place where they are to grow. This rest has much to do with conserving the vitality of the plant that has undergone the hardship of a railroad journey and the severe strain of transplanting.



Plans in Relation to the Family Needs

INFLUENCE OF EXTERIOR UPON INTERIOR ARRANGEMENT

By H. Edward Walker

TO the vast majority of families about to build a home, the financial question is one that cannot be ignored, and its influence upon the final outcome of the proposition is correspondingly great. Yet the method of procedure at the formulation of the plans is almost identical in each instance. That of considering every detail that would be desirable, their adoption and finally to discard such as are beyond the means available.

This is a very human and natural way of going about it and will be followed in the ideas advanced now.

First the family census should be taken and reasonable consideration given, for future complications. The occupation of the inmates is important if of a nature to influence the arrangement of the plan.

A physician must be prepared to receive persons professionally and their entrance and egress should in no way interfere with the social intercourse of the family, making it imperative to have a suitably located room for the purpose, with a separate entrance. In like manner, a lawyer or business man might find such a room useful.

What is known as the reception-room in the average small house plan is an absurdity. The lives of few people are ordered upon such a stilted plan that it is necessary to show intimate friends into an especially prepared reception-room, to be later translated to the more intimate environment of the parlor or living-room. Other social callers will probably be too few to warrant a special room for their reception.

The hall should contain the stairway, have good light, and be of sufficient size, but not too large. A coat closet should be located about the hall or vestibule of sufficient size to contain clothing that is

seasonable and to accommodate the wraps of one's guests. A hall tree is seldom in good taste. The living-room may be all that is required for a general gathering place of the family, but if there are young ladies in the house, it is imperative that they have an opportunity to receive, apart from the living-room. A fireplace, seats, window ledges for flowers, bookcases, etc., all help to make the living-room homelike and inviting. Other rooms may connect with it by wide openings through which a vista may be obtained, by a proper arrangement of their contents.

One of the most important points in the planning of a home is to so place the special features of the various rooms that they can be seen to advantage, not only in the rooms which contain them, but from other rooms. Thus the stairway makes a pleasing view from the living-room and the sideboard may be so placed that it can be seen from the living-room fireplace. In like manner the fireplace would be visible from the sideboard. This massing of effects is well worthy of consideration. The dining-room should be sufficiently large to accommodate a goodly company, but no more. A mistake is made in many homes, by having the dining-room unnecessarily large. It should contain a sideboard which may be also a china closet, a serving table, dining-room table, chairs, and little else. Housekeepers are divided as to the value of a butler's pantry between dining-room and kitchen. While it helps to exclude the odor of cooking from the main portions of the house, it also makes a great many more steps. Its presence or absence is best decided by the individual requirements of the family.

The kitchen should be so arranged that its contents make light work and few steps. If the sink, drainboards, counter

and kitchen cupboards are built in connection, forming a large space for the handling and storage of dishes, etc., the work will be much simplified.

The coal and gas range should be conveniently located in relation to the sink, but not too close and should have an abundance of light to assist the judgment of the cook, as to the progress made by the food being cooked. Where gas is obtainable and the house contains a heating plant, the kitchen chimney is often omitted, which, with the cost of a coal range, effects a considerable saving. Cooking odors may be carried off by means of a pipe carried up in the partition and connected in the attic to the flue for the heating plant. There should be an entry for refrigerator, stair to cellar and a back stair or combination stair, all conveniently adjacent to the kitchen. A modern kitchen is made compact, only enough room being provided to make a good arrangement. The old fashioned kitchen, a place of magnificent distances, is seldom appreciated by the housekeeper of today. Conservation of energy is an important item about the home. For this reason the kitchen pantry is not as popular as it used to be, dependence being placed more and more in cupboards built in the kitchen.

A library in its true meaning belongs to a house a little more pretentious than the average and should be located preferably upon the north or east where the light will be uniform for the greater portion of the day.

Such a room is intended for persons of studious habits and should be quiet and not connected to other rooms by openings other than doors. There should be a fireplace, book shelves, cupboards, etc., and it should be well lighted. If the family interest in literature is confined to light reading cases may be placed to advantage in the living-room.

The den is a room depending for its existence, upon the habits of the man of the house. If he is a man's man and has a great many men friends who call on him, a den may be an advantage. Or if business details require his attention it may be used for this purpose. But if neither of these reasons are in evidence, it is difficult to understand why it is necessary for him to flock by himself away from the family circle.

The chambers of the house should be considered in regard to the requirements of their occupants. The family chamber, as many call it, should be of good size, near the nursery, and may open into a good dressing room or private bath. The requirements of the son will be different from the daughter and their respective rooms will differ.

For this reason the young lady will appreciate good wardrobes built in with numerous doors opening directly in front of the gown, suspended from its individual hanger. Shoe and hat boxes may also be provided in the wardrobes. This arrangement will be satisfactory to the son, but less of it is required and in addition a closet will be appreciated where guns, fishing tackle and gymnastic apparatus can be kept. Closets, except for special purposes, are less in evidence than formerly, because the "standing" space in a closet is room absolutely lost and the light is usually poor. The wardrobe is well lighted, there is no waste room, each garment is separate from its neighbor and nothing is hung over it.

The guest's chamber need not be large, if it is carefully planned. It should contain those things which will create comfort rather than a color scheme that will make life a constant care for its protection.

The bathroom should be of ample size to contain all the necessary fixtures in a good arrangement. The window should be short with its sill not lower than the top of the wainscot cap and no fixture should be placed directly beneath it. It is not advised to have more than one door opening into the bathroom. The attempt to make this room semi-private ensuit with a chamber is of doubtful expediency. The invasion of privacy is a constant possibility, causing untold annoyance, to say nothing of the disturbance caused by the use of the bathroom at a late hour by occupants of other rooms.

The linen closet will be very satisfactory if provided after the wardrobe idea. A broom closet on the second floor will be a great convenience. A sleeping porch is now appreciated in many homes and should be considered at the time the house is designed.

The attic will be large or small according to the size of the house and the style of architecture in which it is designed.

In planning the house it is well to have in mind the possibility of additional attic room if necessary. The attic may be used in many cases as a billiard room, a ball room, a gymnasium or as a storage space. The basement should be carefully planned, that the heating and fuel rooms be located upon the side of the house most convenient for the delivery of fuel. The laundry should be well lighted by wide windows all above grade and be of sufficient size to work properly.

It should be possible to carry the wash from the laundry directly to the yard without passing through the rooms of the first story. For this reason an outside cellar entrance should be constructed or a grade door provided from the cellar stair. This will also be useful in removing ashes and in storing and placing storm sash and screens.

Fruit and vegetable cellars should be constructed with provision for moderate warmth, ventilation and control of light. The plumbing should be arranged as nearly in line as possible in drawing the fixtures from the different rooms. A toilet room in the basement is a great convenience.

Having considered the necessities of the family, it is well to have in mind the architectural style best suited to meet the conditions, before an exact arrangement is determined upon. Certain arrangements of floor plan are difficult to harmonize with certain styles of architecture, thus making it imperative to study the plan and the exterior at the same time to produce the most satisfactory results.

Colonial or classic style is best suited to a plan with rooms on either side of a central hall. What is known as English half-timber style may be adapted to this arrangement, but is quite or much in harmony in a less formal plan of arrangement.

The Mission style allows considerable license as to plan, but demands low broad effects as to roofs so that attic space may require considerable skill to introduce. Bungalows of various types have a few general characteristics in common, wide porches and cornices, low roofs, and must have most of the rooms on the ground floor. Every house built should be designed in some style of architecture and the homebuilder will be working in

his own interests no less than his neighbors to consider this in the early stages of his planning. If he employs a designer to carry out his ideas and harmonize them with certain well known rules of proportion and purity of architectural style, the completed home will be a thing of beauty and possess real merit. Not only will its interior arrangement be satisfactory, but the details of the stairway, sideboard, mantel, etc., will have some style and finish giving an air of culture to the whole setting.

In like manner the exterior will have the lines and characteristics of a known, definite style and the house will be infinitely superior to its nondescript neighbors.

One house may have all the principal details possessed by another, yet be an utter failure architecturally. Just as one man may have all the garments, even to the same cloth, possessed by another and not make as good an appearance, simply because they do not fit, and are not as well tailored as the other. A case in point is that of a house appearing on page 280 of the April issue. A copy was made of this a few blocks distant, but through ignorance of design, the columns of the front porch were changed to a style that is entirely foreign to the architecture of the house. The timbering effect of the gables was narrowed thus giving an appearance of small sticks nailed on. This was probably done because the narrow boards would be a little cheaper, disregarding the effect entirely. The result was failure artistically and the sale of the house will be influenced by its botched appearance.

This article is not only intended to throw some light upon the practical questions of homebuilding, but is a plea for more individuality in our home architecture, a closer adherence to some definite architectural style and consideration for the appearance of the whole neighborhood. Let us realize how really bad our streets look, filled as they are with houses of no architectural beauty or harmony one with the other, often made up of special features taken from houses all along the street, no matter how unsuitable. The thought comes to one that if architecture is "frozen music," the record in some cases must have been run backward through a pianola.

Stucco

HISTORICAL NOTES AND MODERN PRACTICAL EMPLOYMENT

By Albert Moyer, Assoc. Am. Soc. C. E.



RESIDENCE AT ENGLEWOOD, N. J. AN EXAMPLE OF STUCCO FINISH ON HOLLOW TILE.

DELANO & ALDRICH, Architects

THE history of stuccoes does not furnish sufficient information and data to be of practical value in the manufacture of the present day Portland Cement stuccoes. There are records standing 350 years B. C. of stuccoes made from vastly different materials than are of economical use at the present time, and we find that such stuccoes were almost invariably used in the warm climates where the action of frost would not tend to disintegrate the rather

poor material which was then available.

There is every reason to believe that originally these stuccoes were intended to cover up and protect inferior building stone and sunburned straw brick. The archeology of stucco would tend to show that from an artistic standpoint this method of decoration was a development of the wattled buildings, which were plastered with clay and different muds hardened by being baked in the heat of the sun. Therefore, in this instance, the

use of clay plaster over wattled houses was to protect an inferior building material.

Today stucco is used for a similar purpose, that of protection and pleasing surfaces. It would, therefore, seem advisable to recommend a material which would best serve the purpose of protection and artistic merit. Stucco or plaster should never be used as an imitation of other building material.

"To cover brick with plaster and this plaster with fresco is perfectly legitimate, the plaster is gesso grounds on panel or canvas, but to cover brick with cement and to divide this cement into joints that it may look like stone, is to tell a falsehood, and is just as contemptible a procedure as the other is noble."

From the artistic side we would also recommend such surface finish for stucco as will cause both natural color and pleasing texture. It would be well, therefore, to expose to view the aggregates used and avoid as far as possible exposing the bonding material, Portland cement.

There is no artistic reason for allowing only the bonding material to be displayed to the eye. On very large jobs the surface can be cleaned off by means of a sand blast, and on smaller jobs the surface may be cleaned exposing each grain of sand by means of muriatic acid in dilute solution, 1 part commercial muriatic acid, 4 to 5 parts clear water.

Where white aggregates are used the surface may be cleaned off with a solution of sulphuric acid, 1 part acid, 4 to 5 parts clear water. The sulphuric acid leaves a white deposit and therefore should not be used excepting where the aggregates are white.

Another method is to scrub the surface while yet green, say within 24 hours, with a house scrubbing brush and clear water. This is more difficult than the others for the reason that if the stucco is allowed to remain too long before scrubbing, it

will be too hard to remove the coat of neat cement from the outside of each particle of sand or other aggregates; and if scrubbed when it is too soft the surface may be damaged and difficult to repair.

If the character of the available aggregates will not present a pleasing surface when exposed, the following surface treatment may be used:

While the last coat is still thoroughly damp, apply a Portland cement paint composed of 1 part Portland cement, 12 per cent of the volume of the cement of well hydrated lime, pulverized form, and 1 part of the volume of the cement of fine white sand. Mix with water to the consistency of cream or the ordinary cold water paint. Stir constantly and apply by using a whisk broom throwing this paint on with some force.

Keep this finish surface damp for at least six days or longer if economy will permit. Do not allow it to dry out in any one place during the week. If necessary protect by hanging tarpaulins and using a fine spray of water playing on several times during the day by means of a hose. This will give a pleasing light gray color of excellent texture.

Stucco may be applied to various building materials. There is hardly any reason at the present time for stuccoing stone buildings, the procedure at best is difficult and hardly to be recommended. Our building stone is usually an excellent material and, therefore, does not require either protection or covering to produce pleasant effects.

New brick may be covered with stucco very successfully. The joints should be first raked out half an inch. The brick must be saturated with water. It is always best to start stuccoing at the top of the wall and work down between the pilasters or corners finishing a whole strip or whole side wall from top to bottom in one day. Thus no streaks or cracks are formed where one day's work

ends and another begins. By this method the wall can be kept wet ahead of the work by means of a hose.

The second coat should be put on as soon as the first coat has stiffened sufficiently to hold in place and stand the pressure of the trowel. This second coat should be well scratched and the finished coat applied while the second coat is damp. The finish coat should then be kept wet, protected from the rays of the sun and as far as possible from drying out. This can be done by hanging wet cloths over same. This rule of keeping each coat moist until the other coat is applied and protecting after applying the finish coat, must be observed in all forms of Portland cement stucco.

If the stucco is to be applied to metal lath or wire cloth the metal should be

plastered on two sides so that it is entirely encased in mortar in order to avoid rusting. If this is impracticable then the metal lath or wire cloth should be dipped in a paint made of equal parts of near Portland cement and water. Immediately after dipping, the metal lath or wire cloth should be tacked onto a frame in the position it is intended to occupy. As soon as the near Portland cement has hardened on the metal apply the first coat of stucco. Hair should be added to the mortar to be applied on wire mesh or expanded metal. One bag of cement, one pound of hair.

If plaster boards are used they should be nailed on the framework of the building, leaving at least a quarter of an inch joint between each plaster board. This joint to be filled in with lime putty, other-



A RESIDENCE AT COBOURG, CANADA. FINISHED WITH STUCCO OVER HOLLOW TILE

RUTAN & RUSSELL, Architects



A RESIDENCE AT MT. KISCO, N. Y. WALLS OF TERRA COTTA HOLLOW TILE FINISHED
WITH A COAT OF CEMENT STUCCO *DELANO & ALDRICH, Architects*

wise each plaster board will cause square cracks on the outside of the stucco the size of each board.

A convenient method of waterproofing plaster boards is easily available. The boards may be painted with two coats of any of the reputable bitumen waterproof paints to which plaster adheres. Then about 24 hours after the bitumen paint has been applied, and within six days, apply the first coat of stucco.

For stucco on terra cotta blocks great care should be exercised in keeping the blocks thoroughly saturated with water, for if the blocks are not saturated they will pull the water out of the mortar and it will crack and disintegrate. Portland cement requires water until it has thor-

oughly hardened, which ultimate hardening usually takes from 14 days to a month. It is not always necessary to play the hose on the wall for a month, although it would be advisable. The dews at night, the dampness in the atmosphere and the rain will furnish the necessary moisture provided the material on which the mortar has been plastered has not too great an affinity for water.

In order to prevent the porous hollow terra cotta tile from sucking the moisture from the stucco and also to furnish waterproofing and an additional bond other than that which would be given by the key, it is good practice to paint the surface of the dry terra cotta blocks after having been erected in the wall with two

coats of bitumenous paint, equal to such paints as Dehydratine, Minwax, R. I. W. or X-Hydro-Plastic. It is important that the first coat of stucco is placed over this paint after 24 hours and within six days.

Proportions for a good stucco should be 1 part Portland cement, $2\frac{1}{2}$ parts coarse, clean sand. (If coarse, clean sand is not available use only 2 parts of sand.) Add 10 to 15 per cent of well hydrated lime, dry pulverized, of the volume of the cement.

If it is the desire of the owner or architect to use the exposed aggregate method interesting natural colors can be obtained by using the following materials instead of sand, the same proportion: Green, red, buff, black, or white marble screenings all passing a No. 8 screen and all collected on a No. 40 screen. These different colored marble and different colored sand, where obtainable, can be used singly or in a combination. When exposed by scrubbing or the acid treatment very interesting results are obtained.

In mixing stucco great care should be exercised to obtain the thorough incorporation of cement, sand and the other aggregates. The sand and cement should be mixed together dry until an even color results. This can be done by shoveling and raking while shoveling. Water should then be added being careful not to add too much water at a time and not to get the resulting mortar too wet so that the more sand or cement has to be added. Be very careful to bring the resulting mortar up to the proper consistency for plastering.

It is advisable to add to the mortar from 10 to 15 per cent of the volume of the cement of well hydrated lime. This should be mixed dry with the cement and

sand before the water is added. The addition of hydrated lime tends to fatten the mortar, making it more adhesive and impervious.

Another specification which we believe will prove of considerable value is by the addition of mineral oil to wet mortar. After the water is added and thoroughly mixed with the mortar add 15 per cent of mineral oil and remix. If a light effect is to be produced use white oil, such as Oil Petrole.

When the oil is to be mixed with the mortar it is always advisable to use hydrated lime as we thus have a larger amount of emulsifying material.

The color obtained by the scrubbing or acid method is limited only to the available sands or marble screenings, the color will be the color of the aggregates. An excellent green can be obtained by adding 8 per cent of the weight of the cement of Chromium Oxide. This should be mixed dry with the sand, cement and hydrated lime.

Always keep in mind that the surface to which the mortar is to be applied must be thoroughly saturated with water, each coat of stucco must be kept moist and the final coat must remain moist for at least one week and longer if economy will permit.

Stucco should not be troweled to a smooth surface. The artist painter would never think of smoothing the paint on his canvas by means of a straight edge. Texture and color are necessary if artistic results are to follow. By using the suggestions above outlined, the architect is privileged to select the aggregates from which the stucco is made and has in fact as great play in the planning of the color, tone and texture as has the artist in mixing the paints on his palette.



A Dainty Living-Room

By Arthur E. Gleed

ALIVING-ROOM is usually the most useful room in the house, for being as its name implies a room for living in, it has to serve many purposes. It must at times be a work-room, a study, a cheerful place to meet friends, a tea-room, and in fact a room where the occupants can be free from all the restraint which sometimes attends the use of rooms of more formal name. Under these circumstances its decoration and appointments should receive special attention, and there is no reason why it should not be the most charming room in the house, and at the same time one in which the decorations will stand the hard wear which the room will naturally receive.

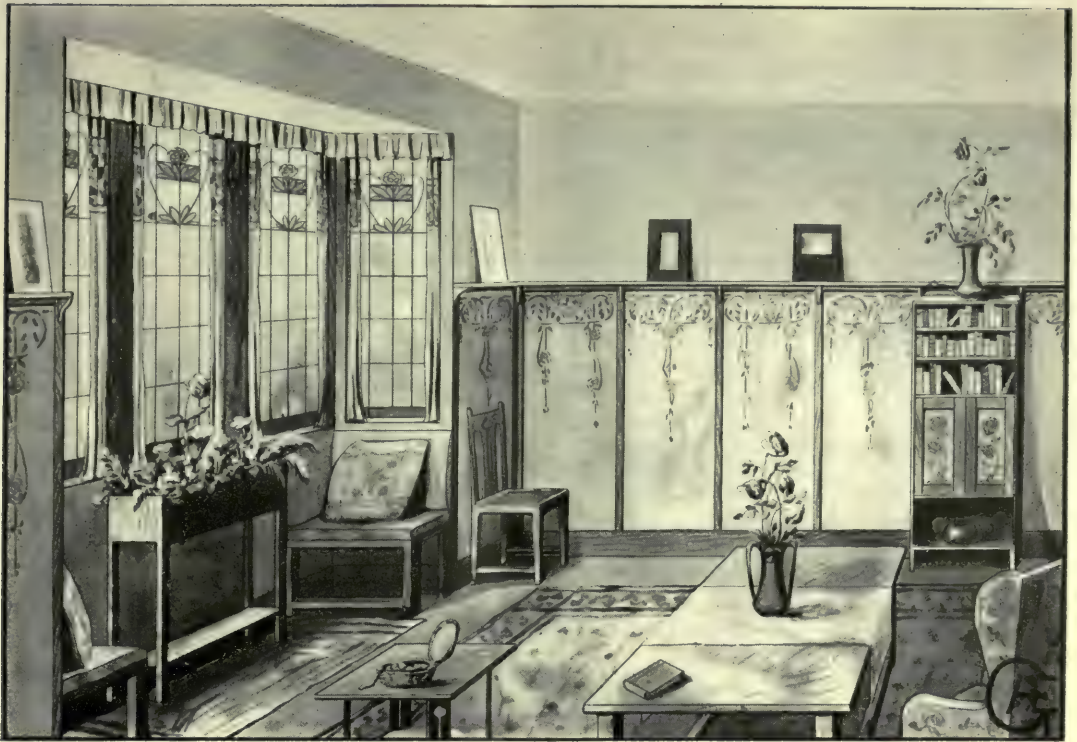
In the room illustrated a pretty color scheme was used combining delicate shades of gray and rose, with occasional touches of gray-green. This gave the required dainty effect, and the hard wearing quality was introduced by finishing the walls with dull surfaced oil paint. Of all methods of finishing walls oil paint is perhaps the most satisfactory, as any shade can be used, it fades least of all materials, holds but little dust, and can easily be cleaned with soap and water.

The ceiling of the room was first kalsomined pure white. Kalsomine was used as it is quickly applied with a large brush, whilst to paint the ceiling with oil paint and a small brush would have been a great deal of labor. The walls were divided into two parts, the lower part be-

ing filled by a panelling four feet high, each panel being two feet wide. Narrow strips of plain oak were used to divide the panels, and it was capped along the top by an oak shell, which was used for pictures, instead of hanging them in the usual way. The upper part of the walls immediately below the ceiling and down to the shell was oil painted a delicate shade of gray, and the panels below were painted gray of a slightly deeper tone. The panels were decorated with two stencilled designs of roses, they being used alternately, and the coloring being pale rose for the blossoms, gray-green for the leaves, and bronze-green for the thorny stems.

All the standing woodwork was stained gray, and given a dull wax finish to harmonize with the walls in both tone and surface.

A large bay window was one of the chief features of the room, and was therefore given special attention in its treatment. The upper panes were filled by stained glass in a rose design, very pale tinted pink and green glass being used. A window seat was fitted each end of the bay, leaving the center clear as a place for a substantial plant stand. The window curtains were of plain gray linen, and were stencilled with a rose design in pink and green, this being placed about twelve inches from the top of the curtain. They were capped by a six inch valance which concealed the brass rods and rings by which they were hung. The neat



VIEW OF LIVING ROOM, SHOWING ARRANGEMENT AND DETAILS OF DECORATION

and practical hanging of curtains is distinctly an item to be attended to in decorating a room. In this instance the curtains were always drawn at night, and the effect of the gray and rose coloring of the fabric against the harmonizing shades of woodwork and walls was very pleasing and well worth while.

The furniture, where possible, was of light colored wood stained to a slightly gray shade and wax finished. In pattern it was simple and useful, all carving and useless curves being avoided, as the panelling suggested a simple squareness as the most suitable design for all the appointments of the room. One handy piece of furniture was a combined book-case and cupboard which was designed specially to suit the room. Made from light colored oak stained gray, its dimensions just filled one of the wall panels. White wood was used for the door panels, and given a delicate silvery shade with stain, and then further decorated with a rose design in pink and green. An upholstered chair of wing pattern was covered with plain silver gray woolen material, and stencilled with roses. The

window seats were fitted with square cushions of gray curduroy, and any extra cushions were of pink and gray linen with rose designs in applique.

The wax polished floor was covered by a large central rug. Carpets and rugs present rather a difficulty when trying to obtain such as will harmonize with existing decorations. It is important where the colors in the room are delicate, that the carpet should not be strong in color or it will assert itself out of all proportion. In this instance the central rug was in shades of gray-green with a few touches of rose, and some smaller ones were in two tones of green.

The general effect of the room was bright, healthy, and refined. The plain white ceiling diffused the light well over the room, making it possible to read or work in any part. The plain walls gave an air of space, and formed a restful background which showed to advantage all that was in the room. As an artistic interior it was sufficiently uncommon to appear distinguished and at the same time had all the attributes of a comfortable living-room.

Designs for the Home-Builder

The fall building goes merrily on. The weather is just "brisk" enough to make the workmen want to step lively to keep at a comfortable temperature. Many homebuilders are taking advantage of the golden autumn days to push the house along to completion. Good progress is being made on all sides for the workmen and contractors alike recognize the advisability of getting the exterior work well in hand in order to work to advantage inside later, thus extending the working season well into the dull months. In many states work will slacken up because of inclement weather conditions.

Select plans and make a start now. Contracts should be let to advantage. The designs shown this month are worthy of careful consideration. The house of moderate cost is well represented and is of attractive design in each case.

Design "B182."

Foundations.—Footings and basement walls to grade of solid concrete built in forms. Basement to be 7 ft. in the clear, with 4 in. cement floor on 4 in. of cinders. Columns of reinforced concrete. Beams of steel. Inside of basement walls to be given heavy coat of waterproof paint and plastered. Outside of walls below grade waterproofed.

Basement under entire house and to have laundry, boiler room, coal room, storage, etc.

Walls.—Walls above grade to roof of solid concrete without reinforcing. Exterior of wall bush-hammered and in natural cement color. Inside of walls waterproofed and plastered. Exterior ornament of cast cement.

Roof.—Of light steel construction covered with dark green slate. Cornice of reinforced concrete with gutter in concrete. Downspouts of galvanized iron.

Partitions.—Of metal studs, metal lath and plaster. This construction is used to facilitate the installation of pipes for plumbing, heating, electric wiring, etc. Bearings for east wall of attic to be carried up from basement.

Floors.—Of concrete slabs reinforced.

Ceilings plastered directly on concrete. Strips bedded in concrete for finish floors.

Plumbing.—Plumbing fixtures of vitreous ware in simple and inexpensive patterns.

Hardware.—Of bronze in simple pattern.

Interior Finish.—Ceiling beams in living-room to be boxed and fastened to strips provided in concrete of second floor. Finish floors to be of maple in attic, second floor, and servant's portion of first floor. Balance of oak. Trim in living-room, dining-room and hall of birch for stain, balance of pine for paint. Living-room, dining-room and hall to have sand finish coat of plaster. First story hall birch strips stained and plaster panels between stenciled. Fireplace to be faced with tile and have tile hearth. Stairs of reinforced concrete with simple wood rail, wood treads and risers. Terrace to have tile floor. Doors single panel. Front door of oak.

Heating.—Steam or hot water heat.

House to be wired for electricity. Window casements to open out, except basement windows. Also all windows, except basement, to have leaded glass. The designer estimates the cost as described at \$8,000.

Design "B183."

This little cement house needs an attractive planting of vines and shrubbery to give it a proper setting. Vine covered it would be a thing of beauty. The grey cement and white painted trim are in good taste. Wood construction was employed and the cement was applied to expanded metal lath.

The plan is very pleasing with its central hall with living-room and dining-room at either side and den at rear.

A stair of pleasing design ascends to the second floor in combination with a few steps from the kitchen. Pantry and kitchen appointments are very complete and there is a rear porch. There are columned openings on the first floor, a sideboard in the dining-room and a fireplace in the living-room, behind which is the

Cottage Designs for the Home-BUILDER—Continued

solarium. On the second floor are three chambers, a bathroom, toilet room, a sewing room and bedding balcony. There is a good attic with stairway.

Finish and floor of main rooms in oak, kitchen pine with birch floor. Second story pine enameled with birch floor. The basement contains a laundry with outside entrance, fuel bins and hot water plant.

Size, 35 ft. by 26 ft. Basement, 7 ft. 6 in. First story 9 ft. and second story 8 ft. 6 in. The architect states that the house costs \$4,000.

Design "B184."

A plain, square house can be made very attractive, as is shown in the illustration. With siding carried to the belt course of second story windows and with cement stucco above, the white trimmings and green roof give a very pleasing effect. The hooded porch is picturesque giving a quaint feeling to the design. Again is seen the long living-room so popular now with its wide fireplace almost opposite the wide opening to the hall and affording a glimpse into the dining-room. The kitchen is of good size and well appointed for service. There are four pleasant chambers on the second floor with numerous closets and a bathroom. The attic space affords ventilation only.

Finish and floors of first story in birch, second story hall and floors in birch, chambers in white enamel.

The basement contains the laundry and hot water plant with fuel bins.

Size 31 ft. by 25 ft.; basement 7 ft. 6 in.; first story 9 ft.; second story 8 ft. 6 in. The architect places the cost as described at \$4,000.

Design "B185."

Many persons, abundantly able to build a full two-story house, prefer the bungalow type of equal cost. This design will appeal to such, as it is built of very good materials and is of good size. The porch rail and piers are of stone and the chimney of brick. The living-room has a beamed ceiling and a fireplace and communicates with the hall and dining-room through a columned opening and sliding doors respectively. There is also a reception-room, two bedrooms, a bathroom, linen closet, pantry and kitchen on the first floor. On the second floor are

two bedrooms and ample closets and a sleeping balcony.

Finish quartered oak for main portion of first floor. Bedrooms throughout in white enamel with birch floors. Balance of floors in oak except bathroom, which is tile.

The basement contains a hotwater plant, a laundry and storage. Size 40 ft. by 52 ft., exclusive of porch. A cost estimate of \$5,500 is placed upon it by the architect.

Design "B 186."

This snug little bungalow with its coupled columns and sided exterior is very pleasing. It contains parlor, living-room, dining-room, three bedrooms, a bathroom and kitchen with an entrance to a side porch. The columned openings of the principal rooms give a very charming interior effect and the sliding doors make it possible to use the larger bedroom for other purposes in connection with the other rooms. The finish and floors are of Georgia pine throughout. There is a basement under the rear portion only, containing a hot water heating plant.

The width is 33 feet, the depth 44 feet, and the height of first story 10 feet, 4 inches. The estimated cost including heating and plumbing is \$2,800.

Design "B187."

Our illustration is that of a bungalow 33 ft. 6 inches by 30 ft. deep; it is called "An Economical Bungalow" on account of the general treatment; which is simple without expensive detail. A foundation with basement under one half, giving ample space for vegetable cellar, furnace and fuel room.

The piazza across the front is 9 ft. by 22 ft. and is screened in, the main roof gable being brought forward over the piazza and giving windows into the space above, thus affording good storage space and two good sleeping rooms, the most economical space in the house.

The main living room is across the front, 12 ft. 6 in. by 21 ft. 6 in., with a corner fireplace, one main chimney accommodating the furnace, kitchen and fireplace. The dining-room at the left of living room is 10 ft. by 12 ft. 6 in., inclusive of the projected recess for sideboard. These two main rooms are finished up

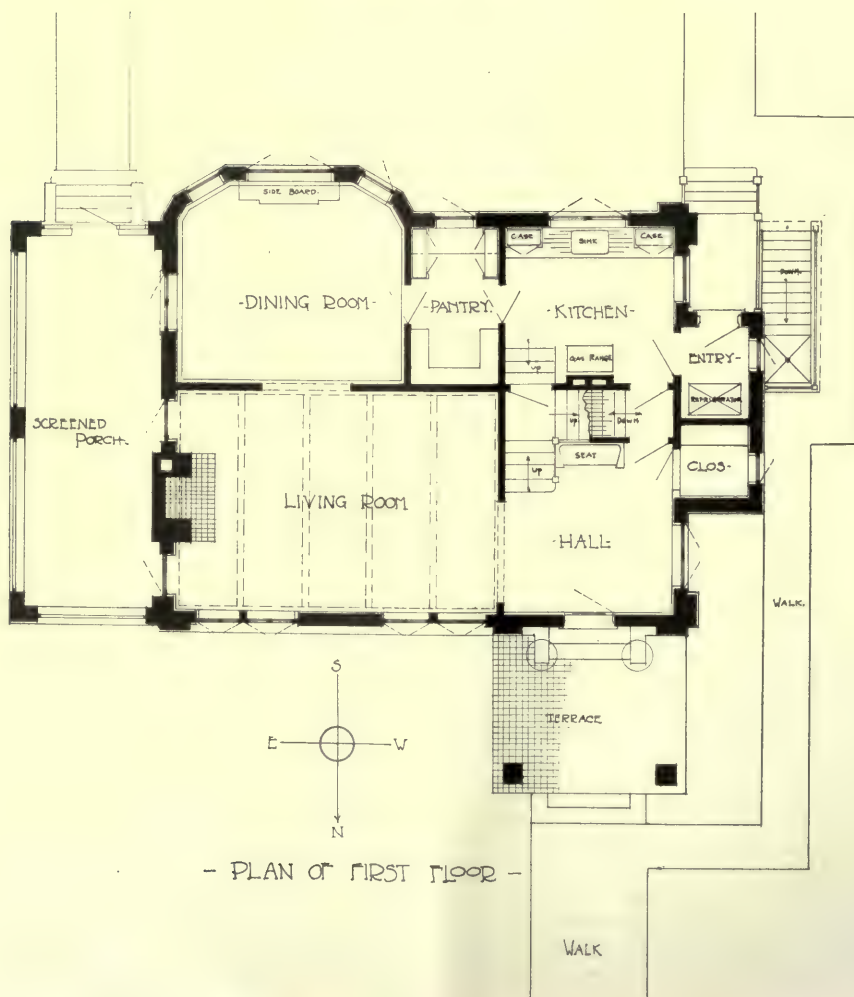


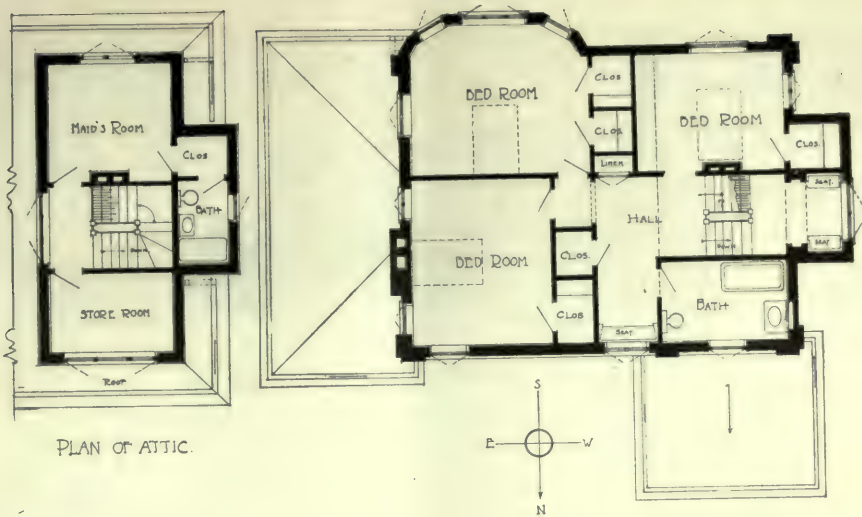
Courtesy of Universal Portland Cement Co.

VERA SALE, Designer

Cement Design with Wide Cornice

DESIGN "B 182"





Cottage Designs for the Home-Builder—Continued

in Mission style with dark stained wood, high plate rail carried around both rooms and a plain beamed ceiling. This bungalow has been built for the sum of \$2,400. exclusive of heating and plumbing. The outside is stained shingles, with white casings, cornices, etc. This combination looks very pretty, brown stain on the side wall shingles and red shingles on roof.

Design "B188."

This design is of the large bungalow type of wood construction, and will appeal to those who like spacious apartments on rather a pretentious scale. The wide hall communicates with parlor, living-room and dining-room through wide cased openings. The kitchen, pantry and entry are conveniently arranged with reference to the dining-room. A chamber with an ample clothes closet and private entrance to the bathroom is of good size. The stair opens, in the second story, on the billiard room 18 ft. by 35 ft. There are two good chambers and four large closets.

The finish of first story is quartered oak with oak floors, except kitchen and chamber which are in natural birch. The bathroom is in white enamel with tile floor and wainscot.

The billiard room is finished in oak with a maple dancing floor and the chambers are in white enamel with birch floors.

The basement is of brick and contains hot water heating boiler, fuel bins and a laundry.

Size 36 ft. by 44 ft., exclusive of porch. Basement, 7 ft. 6 in.; first story, 9 ft. 6 in.; second story 8 ft. 8 in. The architect's estimate of cost is \$5,875.

Design "B189."

This is an extremely neat and inexpensive home to build. The porch across front will be a great comfort in summer. The vestibule will help to keep out the cold of winter and the coat closet off same provides a splendid place for wraps and rubbers. The little hallway contains a prettily detailed stairway and the seat with hinged cover gives storage space for magazines, etc.

In the kitchen is a large cupboard with flour bins, drawers, and shelves. Note how compact the entire house. The front chamber is a fine room and if desired might have an alcove, partition across one end.

The house is heated by a hot air furnace, has a full basement, with cement floor, finish of floors are of pine or cypress.

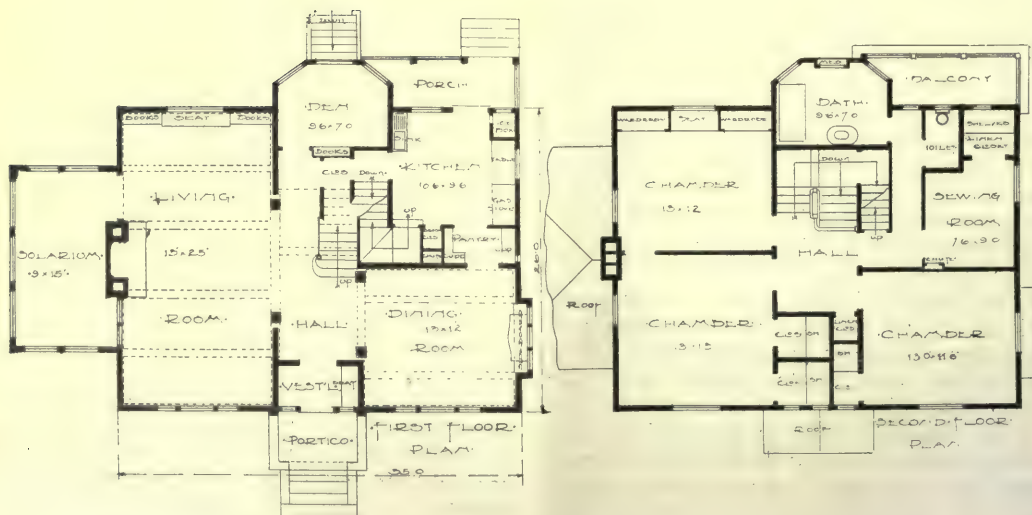
Width, 20 ft.; depth, 28 ft. height of basement, 7 ft.; first story, 8 ft. 7 in.; second story, 8 ft. 5 in.; lowest height second story, 7 ft. Estimated cost, \$2,000.



S. J. BOWLER, Architect

A Simple Treatment in Stucco

DESIGN "B 183"

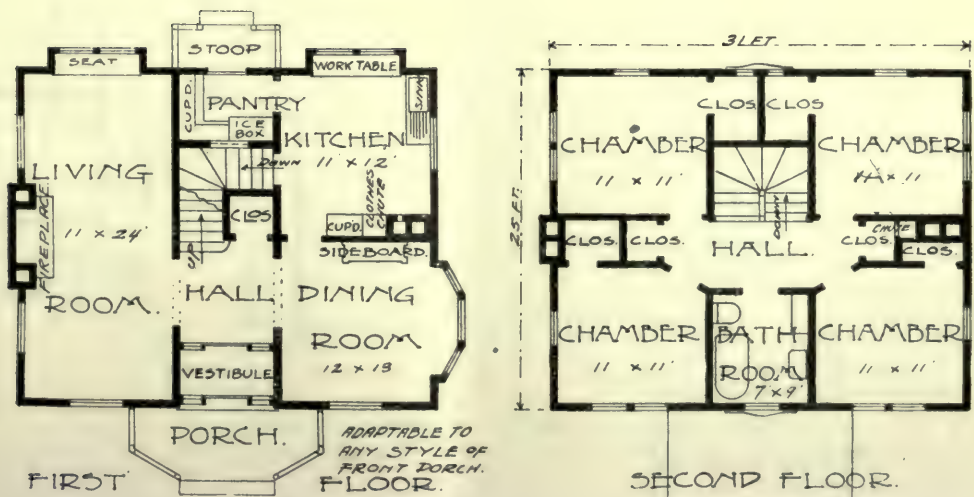




ARTHUR C. CLAUSEN, Architect

Possessing an Air of Hospitality

DESIGN "B 184"

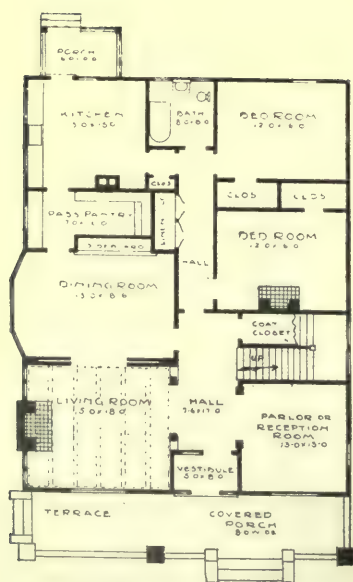




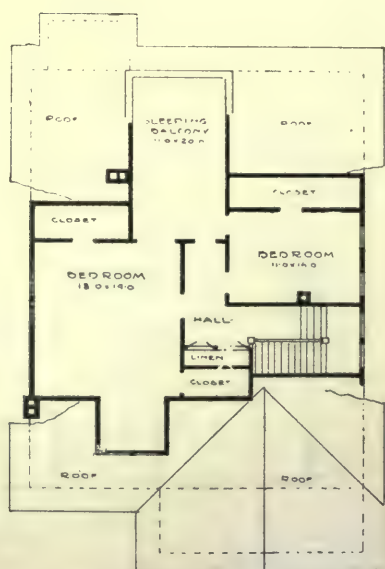
BROWN BROS., Architects

An Artistic Bungalow Design

DESIGN "B. 185"



First Floor Plan,

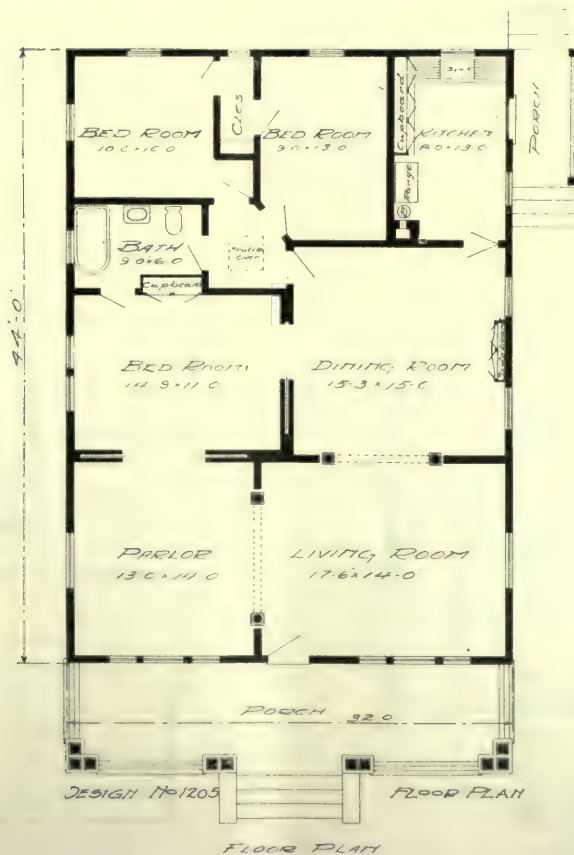


Second Floor Plan



An Inexpensive but Roomy Bungalow

DESIGN "B 186"

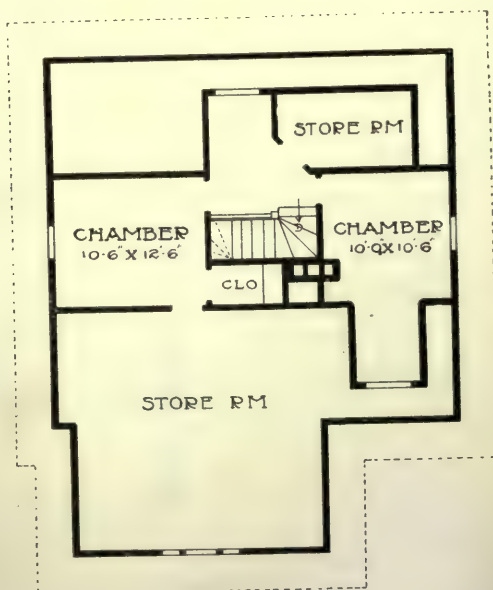
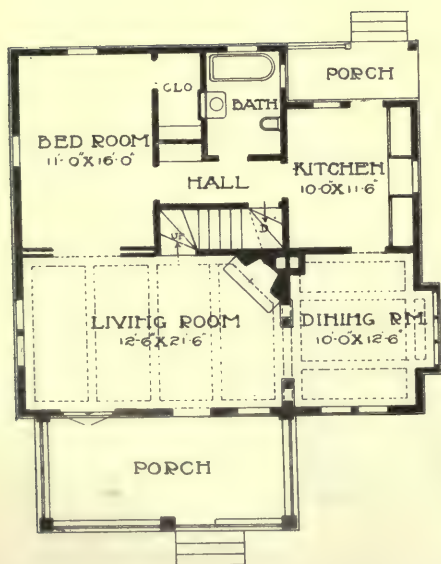




CHAS. S. SEDGWICK, Architect

An Economical Bungalow

DESIGN "B 187"

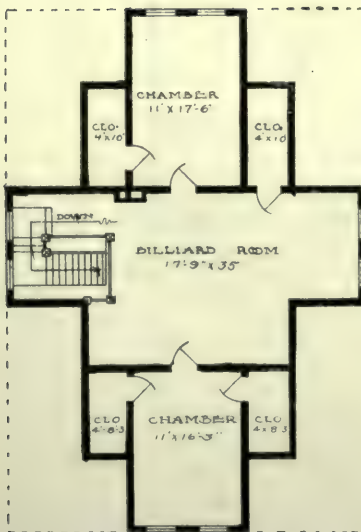




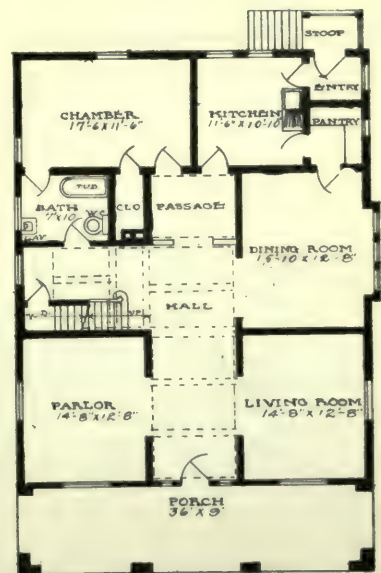
F. E. COLBY, Architect

A Large Frame Bungalow

DESIGN "B 188"



SECOND FLOOR PLAN

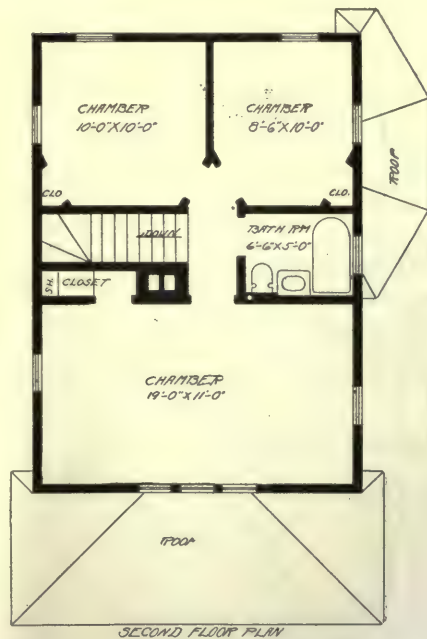
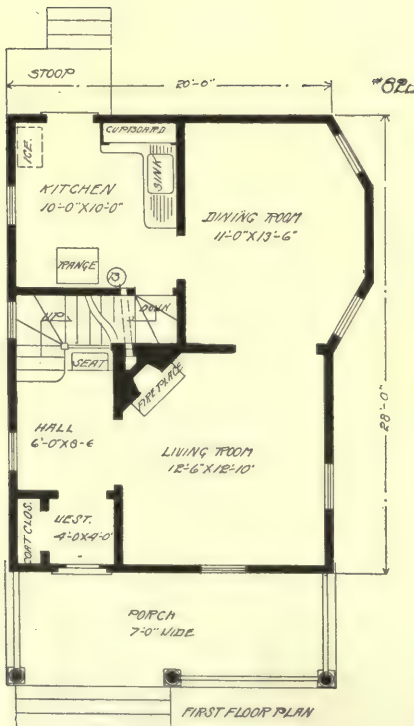


FIRST FLOOR PLAN

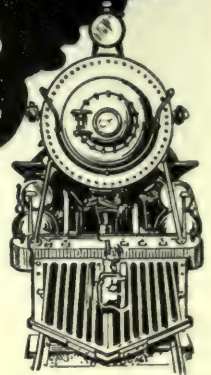
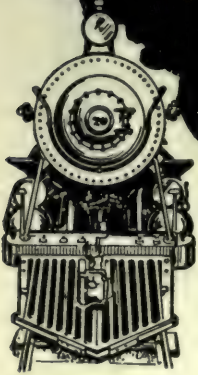


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A "Smart" House.

SOME women were discussing the recently furnished house of an acquaintance, very luxurious in all its appointments. One of them praised one thing, another another, only one dissented. "But you know it isn't in the least smart," she said, and straightway they fell to analyzing.

"Smart" is a colloquialism for distinction and distinction is the quality for which one should strive in one's decorative effects. It is always missed by the painter and paperhanger, not always achieved by the artist. It is a matter of little things, the right color for a certain exposure, the presence or absence of a ruffled ceiling, the difference between a ruffled curtain and a straight one, the grouping of pictures, the arrangement of the bric-a-brac, the placing of furniture. But while these things are instinctive with some people they are dependent upon principles which may be acquired without a great deal of trouble.

Emphasizing Construction.

It is a principle of decoration that it should emphasize the lines of construction, or at least not conceal them. This principle enters into the hanging of draperies. It is adhered to by hanging curtains at sill length, from a rod set into the window frame. The ruffled curtain from four to six inches longer than the window attached to a rod bracketed to the lintel is at variance with it. Portiere poles should be socketed and not bracketed. This same principle is violated in the false mantel pieces so common in some parts of the country.

Walls as Backgrounds.

Another decorative principle is that the wall should be a background for the con-

tents of the room. Rigidly applied it would banish a very large proportion of wall coverings from the market. The only way of getting round it and using an elaborately patterned wall is to consider the wall in the same way as a picture and to surround it with plain surfaces, woodwork, upholstery and metal. This is the only way in which the elaborate and often exquisite floral wall paper can be used and restricts them practically to bedrooms. The exception is in the case of low toned tapestry papers, in which the values are so well managed that no color asserts itself and the result is really a neutral tone.

Jumbles of Color and Material.

Of all the mistakes people make, the commonest, and the most fatal to distinctive style is a hodge podge of color. People who would not think of wearing a hat with four colors on it will put them all in a room and think they are achieving an Oriental effect. As a matter of fact very few people know how to manage more than two colors at a time. Therefore, the present fashion of rooms in a single color is at once pleasing and practical.

Another mistake is in mixing up woods which are radically incompatible. You do not want to put oak and mahogany in the same room. Circassian walnut does not affiliate with white mahogany or birch; but a piece or two of black enamel or a bit of gilt or Vernis Martin will give a pleasing variety to any assortment of furniture, unless it is so hopelessly incongruous as Mission.

Again, it is important to remember that fine materials and coarse do not associate pleasantly. Silk brocade and stencilled burlap are a bit unhappy side by side, while Craftsman canvas and leather

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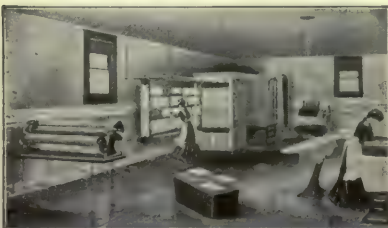
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OR

Decoration and Furnishing—Continued

affiliate admirably. It is not a question of cost but of kind. Just so with bric-a-brac and pictures. You should not put a plaster cast in a room furnished in white mahogany and brocade, nor a Sevres vase in a Craftsman dining-room, however well either may look. "Avoid incongruities" should be impressed in indelible characters upon the brain of every one who attempts intelligent decoration.

Happily for the future, courses of domestic art are abundant and the generation just growing up has the opportunity of acquiring and applying these underlying principles, and we expect, year by year, to see more and more houses which are not merely comfortable and luxurious, but distinguished.

Wicker Furniture.

Some of the new wicker furniture is delightfully comfortable, as well as good to look at. The best pieces are couches and chairs with projecting arms and backs, and furnished with loose cushions of cretonne. There is a particularly good davenport, fully six feet long, and of pleasing proportions. While ostensibly for summer use, these substantial chairs and couches are satisfactory for all the year. Some of the stains in brown and green are very beautiful.

When used all the year, monk's cloth or Craftsman canvas takes the place of cretonne for upholstery. A brown stained couch seen recently had cushions of greenish blue canvas. The green stains are effectively combined with monk's cloth in the natural brown shades.

For dusty city rooms, wicker furniture is ideal, it can be cleaned so easily. It is worth much to have really light furni-

ture in rooms which must be thoroughly cleaned so often. It is more agreeable in association with a good deal of polished wood, tables with uncovered tops and wooden seated chairs. The tables are hardly suitable for indoor use, or at least less satisfactory than wooden ones.

Flanders Furniture.

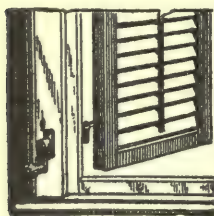
This is the name given to a style of furniture recently placed on the market, which derives its inspiration from Dutch originals. The lines are admirable, the construction simple, but not aggressively plain, and the stain used a delightful warm brown. When handles are used they are hanging ones of dull finished brass. Its dignified simplicity makes it very desirable for a man's room or for a library. An admirable fabric to go with it is self-toned mohair damask. This material, formerly dedicated to covering pew cushions, has been greatly improved in recent years and comes in beautiful reds, blues and greens, some of its designs reproducing those of old Italian brocades. It is not expensive, about \$3.00 a yard, fifty inches wide, and lasts forever.

A Cord and Tassel Decoration.

An effective decoration for a portiere of washable material, denim or crash, is a dado about three feet high, consisting of a lattice work of white cotton cord. The cord is the white cable cord used by dressmakers, and is put on a row at a time, each row looped into the preceding one. At regular intervals a tassel is put on at the intersections of the cord. They may be made from the cord itself or cut from tasseled cotton fringe. Instead of rings, the hanging may be attached to the pole by loops of cord. This is especially effective with green or blue denim, or linen, hangings. In making up plain hangings of this sort, it is a great improvement to edge them with a cord or a flat upholstery gimp.

Draping a Toilet Table.

A capital toilet table can be made out of a bureau, which is too shabby to use, by removing the upper drawer. The end drapery is tacked to the top of the bureau, the front part, run on rings on a brass rod, allows the drawers to be used, when parted in the middle. An upright



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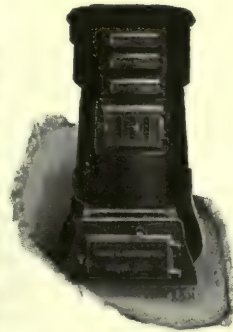
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Decoration and Furnishing—Continued

strip of wood, four feet long, is nailed to the center of the back with a cross piece eighteen inches long two feet from the bureau. A short strip of brass rod at angles to the long strip supports the draperies. Fine white satine is stretched over this framework, and the mirror hung against it. The mirror should be an oval one and its frame covered with the chintz with which the table is draped. This cover, carefully fitted, has a ruffle of chintz three inches wide stitched on before it is stretched on the frame. The whole process is easier if a reversible chintz is used. The drapery for the top is merely a length of chintz edged with a ruffle, thrown over the brass rod and caught back at the sides of the table. The ruffled cover hangs over at the corners, tablecloth fashion, and is caught up to the edge of the table at regular intervals. Or the top of the bureau may be covered plainly with chintz, a ruffle tacked about the edge, and a piece of glass, fitted to the top, laid over the cover.

Band Boxes and Utility Cases.

The latest thing is to have a band box covered to match the chintz furnishings of a bedroom. It is oval, of a generous size and the chintz is stretched plainly over it, dull gold braid finishes the edges and there are handles of gold cord and tassels at the ends. Altogether it is highly decorative and costs \$10.

The newer utility cases, as the sections of chintz covered boxes in a light wooden framework are called, have two long boxes for shirt waists, a large square bonnet box and two smaller boxes beside it.

Place Cards.

The elaborately decorated place card is going out, to the sorrow of the women's exchanges. Its place is taken by a perfectly plain white card, with the hostess' monogram in gold, silver, or a color.

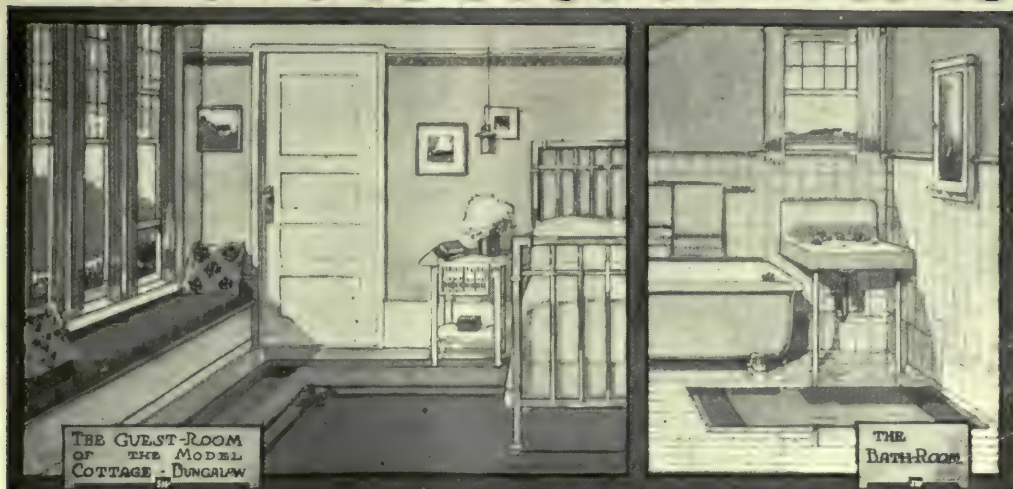
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Stencil No. 39

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You can adapt any or all of the color combinations in our Cottage Bungalow or our Decorative Department will prepare special suggestions upon receipt of blue prints, drawings or descriptions of your home or other buildings.

If you are interested in home decoration, by all means send for this Portfolio today. Sent free on request.

GET THIS PORTFOLIO AND MAKE YOUR HOUSE BEAUTIFUL, TOO



It has pictures in color of each separate room similar to those shown on this page and several exteriors. Each one is accompanied by specifications for painting or otherwise treating the walls, floors, ceilings

and woodwork, and definite suggestions for curtains, hangings, rugs and furniture. The outside suggestions include color schemes for the house to harmonize with any given background or setting, also definite suggestions for beautifying the grounds.

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ANSWERS TO QUESTIONS ON INTERIOR DECORATION

Editor's Note.—The courtesies of our Correspondence Department are extended to all readers of KEITH'S MAGAZINE. Inquiries pertaining to the decoration and furnishing of the home will be given the attention of an expert.

Letters intended for answer in this column should be addressed to Decoration and Furnishing Department, and be accompanied by a diagram of floor plan. Letters enclosing return postage will be answered by mail. Such replies as are of general interest will be published in these columns.

M. S. H. Our little home is almost completed and we are having the cypress woodwork finished in dark oak down stairs but natural finish in kitchen and upstairs. Floors all natural finish.

Inclosed is a crude floor plan of the house showing windows, doors and height of ceilings. I have two rugs I must use. A Wilton velvet (9x12), colors green, red, tan and black, Persian pattern. Also a Brussels with similar colors, also a Persian pattern. I thought it might be made smaller and be used in the den.

The Wilton velvet I thought might be used in the dining-room, but my dishes are English blue (dark) and I have a great deal of copper also. I hardly know what colors would do with these.

Please suggest a plan of decoration over the whole house. The walls are to be tinted, except kitchen and bathroom, which will be painted. I want our home to be as artistic as possible though very simple.

M. S. H. Ans.—In reply to your letter will say, that the two 9x12 rugs are not easy to overcome. They are too large for either dining-room or den and not large enough for living-room. If, as I suppose, they are woven rugs, with a border, it would hardly be possible to cut them down. It is now possible to dye rugs with excellent results and if these rugs are in good condition, that would be the best solution of the difficulty. Or the border might be taken off of the ends of the Brussels rug, making it 9x9 and using it in the den. The Wilton rug could then be dyed a rich deep blue and used in dining-room. At the dye house, the color is discharged from rugs to be dyed so that almost anything is possible. The cost for doing this here would be about \$2.50. If this were done and the living and dining-rooms unified in a green and blue color scheme, the effect would be delightful. The living room

rug should then be a rich mossy plain green.

The walls a dull lichen green with white ceiling and the dining-room lower walls a rather rich green meeting a wide scenery frieze of blue and green with pale blue ceiling. Thus you will have an excellent setting for your English blue willow ware and two harmonious rooms. The paper frieze could be used in dining-room in conjunction with tinted walls. The living-room furniture and draperies should continue the green color note with some touches of deep blue, such as green and blue seat cover in bay window with some cushions of plain green and some of plain blue. All depends on getting just the right greens and blues.

B. R. H.—Will you kindly help me out of my dilemma? My dining-room opens off living-room, both of which are finished in white enamel and mahogany. Now I wish some kind of darker finish in the dining-room and am puzzled to know what it can be that will still harmonize with the other two. I might have mahogany stain, but that would necessitate having mahogany furniture which I do not wish in a much used dining-room. Can you suggest any other kind of furniture that might be used in case I am obliged to have the room finished in that way? Green and grey are the chief color notes in the other part of the house.

B. R. H. Ans.—In reply to your recent letter asking for suggestions on decoration would say, that since the larger part of the dining-room woodwork is already finished with paint, it would be a simple matter to put two coats of dull olive green paint over the white enamel and to have the mahogany stain taken from the doors with a paint remover and the doors restained with Bog Oak Handicraft Stain, made by the firm whose name is enclosed. This woodwork would contrast very agreeably with the white and

*That
Beauty
is only
Skin
Deep—*



*Is a
Skin
Deep
Saying*

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Answers to Questions—Continued

mahogany of the other rooms and you could use furniture either of black flemish oak or weathered oak or very dark wood. To do over the whole room in mahogany would necessitate removing all the white enamel and would as you infer, demand mahogany furniture. Nor would any other furniture than mahogany be suitable with the woodwork as it is now. However, mahogany furniture which has the dull, waxed finish and not the high polish and in the dark antique tones, is

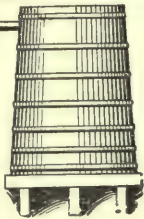
not more easily defaced than other furniture, excepting of course, the ordinary weathered oak.

Mrs. P. B. S.—Please advise as to color scheme in living-room and dining-room of two-story, nine-room house, facing west, with wide porch in front, $9\frac{1}{2}$ by 21 ft. The living-room is 17 by 21 ft, has a wide fireplace of red brick and heavy timbered shelf. The woodwork of Georgia pine with a beautiful grain will be finished in weathered oak. The rug in this room is in small figures, soft green and wood brown being the prevailing colors. Every line in this house is simple and the effect is massive. The living-room has plenty of light. The exterior is plaster in a reddish brown shade. The upper part of windows have diamond shaped panes. Please advise as to color as the rug must be used for a while and the red brick of the fireplace must be taken into consideration. The dining room is about 12 by 15, with large window filling nearly all of south end with window seat below. The lower part of side wall is to be done in burlaps and woodwork finished in weathered oak with rug in old red and green.

Mrs. P. B. S. Ans.—In reply to your recent letter would say that in decorating and furnishing these rooms an ideal color scheme would be the golden browns, with a pinkish tinge like the sun shining through a dead oak leaf, with the green color of the rug repeated in ferns and cushions and chair coverings and the gold intensified in straight curtains of "gold cloth" at the window.

Dull, brass light fixtures, jardinières, etc., should furnish high lights. This room should open into the dining-room done in leafy greens with dull rose blending in. The green burlaps should not be too dark, nor too bright. The window seat should be cushioned with a Morris cretonne carrying the same notes of dull rose and green on a pale ecru ground, and the ceiling should be the same pale ecru.

Mrs. W. C.—We would like your suggestions on the decoration of our dining and living room in the six-room house we are building. Woodwork and furniture in both rooms are dull dark brown oak



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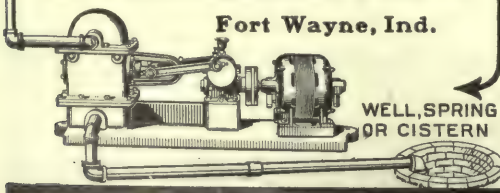
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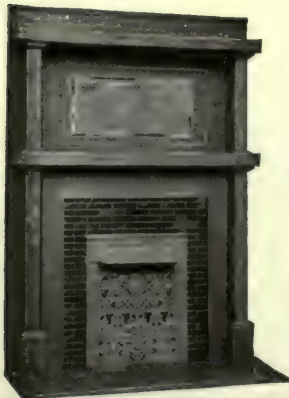
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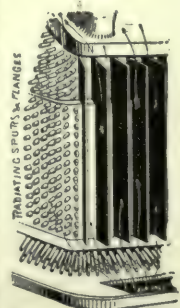
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Answers to Questions—Continued

and both rooms have beam ceilings and head casing of windows extend around the room forming the picture moulding. Living rooms on south with three exposures, dining-room on northeast. The living-room has an old-fashioned fireplace of cement brick. We had thought of using the water color paints for walls, but could think of no other colors but browns or greens and they are so common. We want to use a rug with blue predominating in the dining-room. How should the floors be stained? So many advise me not to have them dark as they show dust badly.

Our house is full two-story with lower half siding and upper shingles. We like the combination of grey and black as we see so many cement, but don't know just how the colors should be used with shingles or siding.

Mrs. W. C. Ans.—In reply to your recent inquiry, it would be a mistake in our judgment to treat the walls of these rooms in water color or kalsomine. So much dark woodwork and furniture together with the plain, severe fireplace facings, need the relief of uneven wall surface. You should have for the northeast dining-room, one of those delightful rough surfaced duplex papers in two shades of dull yellow up to the moulding and above that should be a frieze in rich blues, greens and yellows, with the ceiling between, a beaming tinted a cream.

The south living-room with all those windows should have a two-toned green wall paper in a leaf design. Yes, green is "common" and so is sunshine and trees. There is nothing to take the place of it, but there are ugly greens and soft, agreeable ones.

If your floors are of oak, a medium stain, not very dark, will probably please you best. For myself, I choose dark, rich floors, and dust them.

In regard to your exterior the manufacturers whose name is enclosed, have a new and beautiful grey stain on the market, which would be a good choice for the shingles and would combine well with siding painted a willow green. A very dark color for the siding would not be pleasing.

Mrs. W. L.—We are moving into a new house and the owner has given us the privilege of selecting the wall paper. I would like to have you advise me about rugs, curtains and draperies, also the wall paper. I cannot send you plan of house but will try to explain to you. The reception hall is about 10 by 10; stairs go up at rear of hall; a large opening off hall into parlor and same off parlor into dining-room. These room are all quartered oak finish, and I think it is going to be a light stain. My piano is oak and all my chairs are oak and leather. I am buying new rugs for parlor and dining-room and hall. Please tell me what to select, also what furniture would be good for the hall.

Mrs. W. L. Ans.—In reply to your letter of recent date asking for suggestions on decoration would say that with oak woodwork and oak furniture upholstered in leather, the wall treatment should have considerable strength. An ideal paper for the living-room would be a German Duplex fabric paper in two tones of grey. The design outlined in a darker shade on a light grey ground. If this were too expensive, I know of nothing better than a crepe paper at 50 cents a roll in putty grey. With such a wall, I should have a rug of plain green Wilton Moresque, the best thing I know of in a rich looking rug at a moderate price. The other furnishings, such as portieres or over draperies at windows, should be in the same mossy green. As this room opens into dining room, you could use a paper in a wide stripe in two shades of grey, for a wainscot, say 7 ft. up, and above this a frieze of autumn leaves, with a rug of mixed greens, browns and dull rose. Such a dining-room has been carried out very delightfully in a house in the city. The window draperies are of apple green, Sun Dure, in a little check, without other curtains.

The hall could be in old rose and green. I should have oriental rugs and a stair carpet. The other furniture needed would be a small table whereon to place a card tray or a caller's hat, an umbrella stand and a hall bench of some sort, unless there is a seat built in. A jardiniere with a growing palm is always well placed in a hall.

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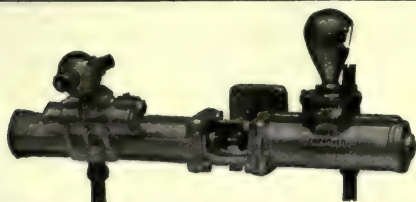
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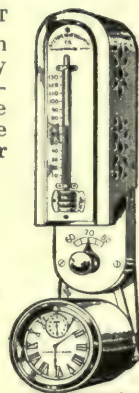
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Great Possessions.

NOT precisely the sort which caused the difficulties of the rich young man, in scripture, but of another variety. Who does not know the house crammed to overflowing with all sorts of things which have outgrown their usefulness?

To begin with, it is the house whose every room is fully carpeted. Carpets grow threadbare, but it is so much work to take them up and remodel them that they stay down, and their most conspicuous deficiencies are hidden by rugs. There is much upholstered furniture, far more than is needed for convenience, principally valuable for filling space. Here and there a leg or arm has been glued and secured with string. Coverings are faded and worn and it is hoped that abundant cushions may cover up the worst of the dilapidations, as well as accentuate the effect of confusion.

On the walls really good pictures are swamped by a confusion of framed photographs of friends, post cards and calendars, and choice porcelains stand side by side with trumpery bought on the board walk of some seashore resort.

The confusion of the rest of the house finds expression in the kitchen in a plethora of utensils, in piles of fire cracked earthen ware, in nests of burned saucepans, in accumulations of worn towels and dusters.

Cause and Effect.

If you analyze the conditions which have produced such undesirable results, you will get back to the sentiment of association. Now the sentiment of association is a good thing. It has been instru-

mental in preserving for us the concrete records of the past, in making our history a very real thing. Every antiquarian society witnesses to its value. But the universal application of the sentiment lands one in a domestic ditch. It finds its extremest expression in the case of the woman who preserves every silk hat worn by her husband during forty years of their life together. Nothing but flame or earthquake will deliver such a one from bondage.

But for most of us the parting from our nondescript possessions is not necessarily a painful one. Like the pulling of a loosened tooth, it requires only a determined, but painless wrench.

The Means to the End.

Probably the best means to the desired end is a course of reading on sanitation, the germ theory and kindred topics. If properly applied the germ theory will banish the nailed down carpets and most of the upholstery. Supplement it by an investigation of the utilitarian theory and the kitchen rubbish will depart. Then to sanitation and utilitarianism add the esthetic dictum of William Morris: "Never have anything in your house which you do not know to be useful or believe to be beautiful." After that only the practical application to the bric-a-brac remains.

It is easy to be sarcastic at the expense of domestic accumulations, but they are at the root of at least part of the intolerable burden of housekeeping, as it affects most women. And few of them seem to realize that it is their duty to themselves not to be thus burdened. Like the wife of the patriarch, they stay by the stuff.

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Household Economics—Continued

An Hour a Day.

I suppose that an hour a day would not be a low estimate of the extra time consumed in doing the necessary work in one of these heavily cumbered houses, as contrasted with the lightly equipped and easily run dwelling of the modern type. Just think of the things that might be done in that three hundred and sixty-five hours, equivalent to the waking hours of twenty-two days. For instance:

An hour a day out of doors for tennis, golf, walking or merely a trolley ride or half a day in town for a concert or a picture gallery, or a play, once a week, out of its saved up hours: Or an hour given to the children, with so much of happiness for them in the undisputed possession of mother free from the conflicting domestic claims, meaning much to them, but far more to you: Or an hour a day for the pursuit of a hobby of some sort, some line of study, some craft, any one of the little things that add so much zest to life and make the coming of age so much easier: Or even nothing more than an hour's rest each day. Aren't all or any of these things worth more than dusty upholstery and faded carpets and cracked china cherished for the good it has done in the past?

The Ever Present Problem.

Need one name it? It rises up and sits down with many women, and those who have it not are regretting their inability to embrace it. Moreover, with the changing conditions of our American life, it grows more and more difficult of solution. Year by year more girls gravitate to the factories, less see their Mecca in domestic service. Laundries are many and destructive ready cooked food is abundant, co-operative experiments numerous and light housekeeping is omnipresent. But the well-ordered, well-served household of even a decade ago is rapidly becoming the luxury of the rich.

There are, of course, exceptions, old

retainers, young women who for some special reason of location or physical unfitness for store or factory, elect to serve the very small and desirable family, but they are few and far between, and the amount and kind of service, once considered necessary to the maintenance of a definite social position, is increasingly difficult to obtain, at least under the old conditions.

Some Solutions.

And the solutions are hardly conventional ones. But perhaps any solution is a boon to someone.

One is the reduction of domestic service to the same terms as service in office or factory. The maid reports at a definite hour in the morning, works a fixed number of hours, goes home at a regular hour, the length of her day approximating closely to the time limit of the factory, its later termination at night being balanced by a half holiday once a week. Sunday is left out of the reckoning. Its food is largely prepared the day before and its hospitality, if any, is of the sort which does not depend upon servants. Here and there this plan has been tried with success. It involves an overturn of many household conventions and requires a systematic mistress of the house, but it gives the maid a greater amount of personal liberty than the residential system does. And economists are generally agreed that the denial of personal liberty is at the root of the distaste for domestic service.

Another is the employment of men. At first the idea seems ridiculous to the average woman, but it really works well. The man brings to work of this sort abundant physical strength. He is accustomed to long hours and if he can do housework at all he does it with less fuss than a woman. Also the masculine mind has a sense of balance and order which makes the work of a man of better quality than that of a woman of the same grade of intelligence. The sort of man who will do housework is of course the man who is in some way handicapped. The man of superior intelligence or skill is likely to find more remunerative employment. The handicapped man demands the exercise of more or less patience in his training, possibly also he returns it in gratitude.



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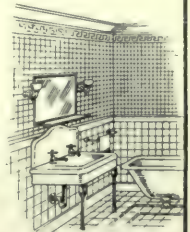
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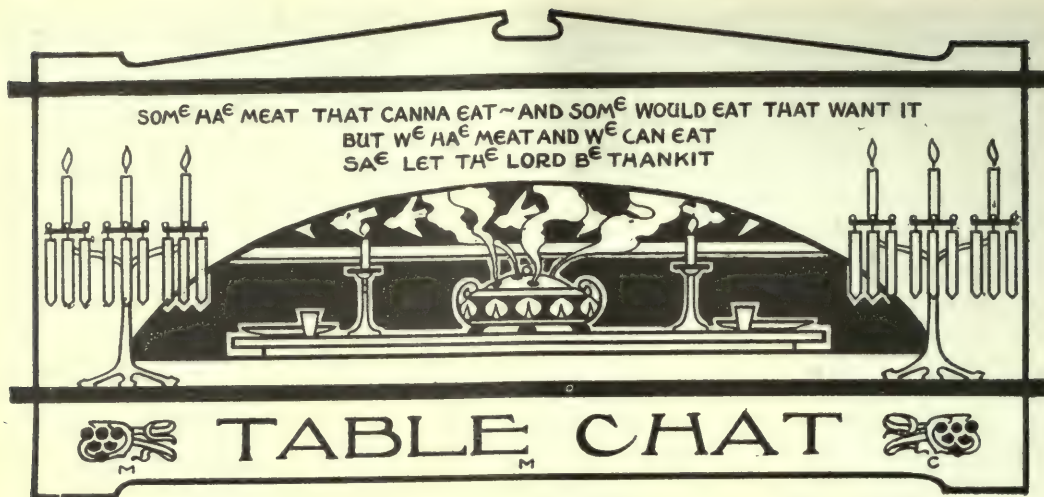
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To Breakfast or Not to Breakfast.

ONE of the sanitary theories, so many of which are rife, is the omission of breakfast altogether. The contention is that the first meal of the day is better digested if preceded by several hours' activity. Practically this amounts to the reduction of the day's food to two substantial meals.

If one were to trace the origin of a scheme of this sort one would find that it began, not as a helpful solution of the difficulties of the daily routine, but in the exceptional circumstances of a single individual. If a prolonged season of insomnia compels one to take advantage of the possibility of sleeping in the morning, it is easy, perhaps desirable, to eliminate breakfast altogether. But for people in a perfectly normal state to suddenly change the habit of a lifetime would seem to be somewhat unreasonable. Such experiments are apt to result in discomfort, if nothing worse. Certainly in the colder months of the year such a change is the height of folly as it puts upon the system the double work of resisting both hunger and cold, for the first half of the day.

We hear much about the continental breakfast, but few people seem to realize that the continental roll and coffee often taken in bed is succeeded at half past eleven or twelve at latest, by a very substantial meal indeed. The conditions of American life make such a meal out of the question for the entire family, and would seem to demand a different ar-

rangement altogether. As a matter of economics any plan of living which involves the purchase away from home of one of the substantial meals of the day is poor policy. For this reason the mid-day dinner is adapted to small places, where men can reach their homes from their places of business quickly, while in cities of any size the late dinner is the better plan.

The continental breakfast has its special adaptations. It is peculiarly fitted for people engaged in mental pursuits, or living a sedentary life. The roll is sufficient to take away any faint sensation, without drawing much blood away from the brain for digestive purposes, and the slight stimulus of the coffee is beneficial. A light breakfast and a light lunch is the ideal thing for the brain worker.

But for people more actively engaged, using their muscles rather than their brains, the substantial breakfast would seem almost a necessity. It may be doubted whether that breakfast should consist of a cooked cereal, warm bread, hot meat and potatoes, but it should certainly contain the elements of nutrition supplied by these articles eliminating the undue proportion of starch and in the case of fried food, of fat.

The English breakfast differs from ours in service and in substance. For warm bread, they have toast and in the average house a joint of cold meat, ham or roast beef, is on the sideboard, for people to help themselves. The cereal is usually oatmeal and there is always a pot of jam or marmalade. Even in

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Table Chat—Continued

houses with many servants none are present in the dining-room, people wait upon themselves and the meal is pleasantly informal. The bill of fare is a bit monotonous, but one easily accommodates one's self to it, and it saves trouble not to have to study variety.

Tempting the Invalid.

Where money is no object there are beautiful individual services meeting every possible requirement, but even with limited means it is easy to make up from open stock patterns an assortment of dishes which will deck the invalid's tray bravely. They are delightful things in blue and white German stone ware, in green and white English porcelain and in some of the Japanese wares, which can be had at small expense. It is a pretty touch to embroider the tray cloths and the napkins in a color to match the china. Also it is well to have the cloths fitted to the tray, rather than hanging over its edge.

No amount of beautiful china and glass or flowers is of account in comparison with the temperature of the food. Hot things must be hot, cold things cold, if the invalid's appetite is to be tempted. Therefore serve soup in a bowl rather than a plate, drinks in covered earthen pots and cooked food in a casserole. A pail of ice and salt in an adjoining room is an admirable substitute for a refrigerator, if covered with a pad of carpeting or some newspapers.

An invalid table is expensive, but one can be improvised from a small kitchen table by cutting off the legs to about twelve inches in height and standing it

upon the bed. Sometimes, too, an ordinary table of the cross braced sort can be reinforced with an iron bracket, and the supports at one end cut away so that the top will extend over the bed when it is pushed up closely.

Tables for Two.

In a small dining-room the ordinary extension table takes up a great deal of room, and various provisions are made for the exceptionally small room and the exceptionally small family.

There is the settle table so popular in studios, with a forty-two inch circular top which swings over to make a back for the seat underneath and is rather a picturesque article of furniture, although the oblong sort, commonly used for ironing, has better proportions. Such a table in hard white wood can be bought in the department stores and finished in any way desired. It must be remembered that the settle table occupies one space when in use, another when pushed back, but it is a capital device for the room used both for sitting and dining-room.

A circular table of the same size, in Mission or fumed oak has been put upon the market in the last two or three years. Its peculiarity consists in having chairs accompanying it whose backs are of the exact height of the table and fitted to it, so that when they are pushed under it they follow its outline exactly. A set, table and four chairs, costs from twenty-seven to thirty-six dollars, and they could probably be had in the unfinished wood.

A great variety of small tables, seating three or four, is made for use in restaurants, but they must be sought for in places for the sale of hotel supplies. Some of them are very good looking indeed, others extremely ordinary. An observant eye will probably discover the precise thing required in a tour of the restaurants. Such tables may often be acquired second hand, and in New York there is a part of the city specially devoted to the sale of restaurant furnishings at secondhand.

The ideal dining table for two is one of the tilt top mahogany tables so common among antique furnishings, and quite often found in shops where they are sold. Sizes vary but they are often as much as thirty-eight or forty inches in diameter.

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Here is a lighting system that not only means good profits for you but it will give the most satisfactory service to your customers.

The best light for residences, schools, churches, factories, etc., especially where city gas or electricity are not available.

This system of lighting is cheaper than any other form of light and gives perfect results. A gas plant complete in itself right in the house. Perfectly safe. Examined and tested by the Underwriters' Laboratories and listed by the Consulting Engineers of the National Board of Fire Underwriters. The gas is in all respects equal to city coal gas, and is ready for use at any time without generating, for illuminating or cooking purposes. The standard for over 40 years. Over 15,000 in successful operation.

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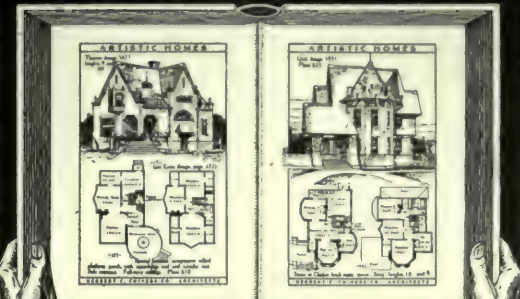
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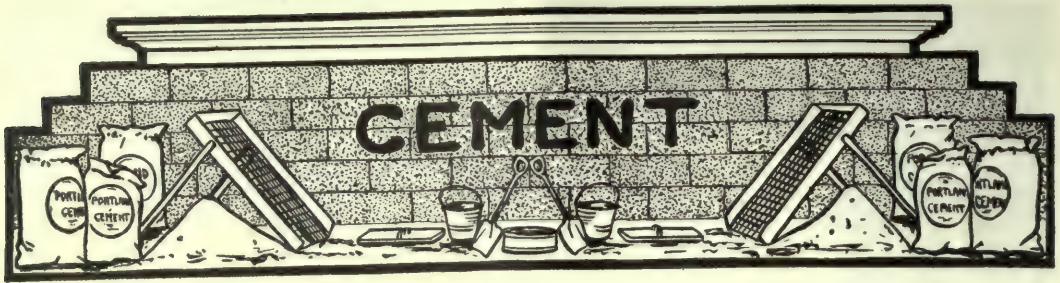


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Press Notice.

The first general allotment of exhibition space at the New York Cement Show, December 14-20, 1910, and the Chicago Cement Show, February 17-23, 1911, was made on September 2.

Practically all of the main floor space in Madison Square Garden and in the Coliseum was taken at the first allotment. While the two buildings afford more than twice the amount of space which was available at the Coliseum for the Cement Show last year, there were enough applications for space to nearly fill both buildings. Only a few good locations remain at this time.

Sousa's Band at Cement Show.

The engagement is announced of John Philip Sousa and his band of seventy-five musicians to furnish music for the New York Cement Show. The engagement of this famous band will attract to the exhibition people from all over the United States. This is the first instance where a feature of this character has been introduced in connection with any previous trade or industrial show.

Higher Price for New Building Material Follows More General Use.

The remarkable substitution of cement for lumber throughout the country, and especially in the western sections, according to lumber dealers and contractors, is becoming apparent. One of the clearest indications, these men declare, is that the price of cement in the west and the southwest has advanced 3 cents a barrel, and in the east, where the price was already higher than in the south, 10 cents a barrel.

Two years ago there was an overproduction of 100 per cent staring the manufacturers in the face, as the estimated capacity of the plants at that time was 100,000,000 barrels per year and the consumption 50,000,000 barrels. Present

conditions indicate a consumption for this year of 75,000,000 barrels.

The dealers in this section believe the increase in the price is largely due to the large quantities which farmers and others in the rural districts are using and the general prosperity throughout the west and southwest.

Western dealers report a sale of about sixteen barrels of cement to every 1,000 feet of lumber, against one barrel for every 1,000 five years ago.

Street Signs in Concrete Curbs.

Now that concrete curbs are coming into such general use on city streets, it would prove a good plan to put the names of streets in the top of the curbs. The letters should be sunk into the concrete just at the side of the cross-walk, and should be two or three inches in size. The expense would be infinitesimal, the sign would not be subject to breakage or removal and the public would have really ideal street signs.

Cost of Mixing and Placing Concrete by Hand.

The work on a 4-foot circular sewer in Louisville, Ky., was carried on entirely by hand. The sewer was located through a park and near a roadway and materials for the work were placed at convenient points. The invert contained 0.21 cubic yards of concrete and the arch 0.18 cubic yards per lineal foot, and each was built separately. A light mixing board was made, and was shifted along by the gang as the work progressed.

The gang consisted of 17 negroes and a foreman, says Engineering Contractor, whose duties consisted of excavation and concreting for the sewer. The successive steps of their work were alternated with another gang which attended to the forms and reinforcement. The length of concrete laid at one operation was 72 feet of either arch or invert and the time re-



Asbestos "Century" Shingle Roof—Residence of A. W. MacCallum, Merchantville, New Jersey; A. W. MacCallum, Merchantville, Architect; Thomas Oliver, Chester, Pa., Contractor

Asbestos "Century" Shingles

"The Roof that Outlives the Building"

IN your own interest—before deciding on your roof compare the service record of Asbestos "Century" Shingles with that of *any* other roofing you have in mind.

You will find proof of the durability and permanence of Asbestos "Century" Shingles all over America and Europe on *all* types of buildings—residences, public buildings, industrial plants.

Their serviceability is a matter of record—not theory.

Asbestos "Century" Shingles are the first *practical* lightweight roofing of reinforced concrete—hydraulic cement reinforced with interlacing asbestos fibres.

They are absolutely indestructible by weather and time. Cannot rust, rot or crack. Rain, snow and dampness harden the cement and toughen the shingles. They improve with age. Fire cannot burn them or break through them. They will not chip, crack, flake or melt. Asbestos "Century" Shingles need no repairing or painting—no upkeep expense. The first cost is the only cost and yet it is no greater than you would expect to pay for a first class roofing.

The illustration shows the residence of A. W. MacCallum, Merchantville, N. J., one of the thousands of buildings roofed with Asbestos "Century" Shingles. They dress up a building and bring out the attractiveness of its lines and colors.

You can get Asbestos "Century" Shingles in three colors—Newport Gray (silver gray), Slate (blue black) and Indian Red—in numerous shapes and sizes. Ask your responsible roofer about Asbestos "Century" Shingles. Drop a postal for our illustrated booklet, "Reinforced 1910"—full of valuable pointers to the man with a building to be roofed.

The Keasbey & Mattison Company

Factors

Ambler, Pennsylvania

Cement—Continued

quired to do the work averaged $3\frac{3}{4}$ hours. The men were divided as follows: Two men on mortar; 4 men on gravel; 2 men on sand; 4 men on mixing board; 1 man on water and cement; 4 men in trench spading; 1 foreman.

All the men received 20 cents per hour and the foreman 35 cents per hour. The cost of concreting 72 feet of invert or arch was thus:

17 men at 20 cts. per hour, $3\frac{3}{4}$ hrs.	\$11.05
1 foreman at 35 cts. per hour, $3\frac{3}{4}$ hrs.	1.14

Cost of laying 72 ft. of invert or arch\$12.19

This gives for 72 feet of complete sewer a cost of \$24.38, which divided by

28.08 cubic yards, gives a cost of 87 cents per cubic yard. In this work there were about 2.23 pounds of steel reinforcement per lineal foot of sewer. Two men were employed continually to bend the steel and place it in position in the forms.

Concrete Bridge 1,965 Years Old.

The London Times prints a description of a concrete bridge known as the Pont du Gard in the south of France, built in 56 B. C. The structure is of arch form and was constructed of good materials, intelligently used.

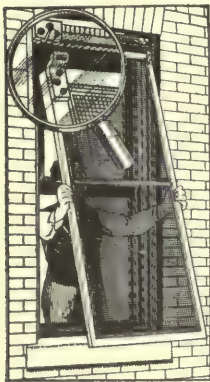
Palladio wrote in 1570 describing "the method employed by the ancients, of using boards laid on edge and filling the space between with cement and all sort and sizes of stones mingled together."

To Make Cement Water-Tight.

The addition of soap and alum to cement mortar has been found to diminish the permeability and the following has been found to give good results: "Take one part cement and two and one-half parts of clean, sharp sand, and to every cubic foot of sand add three-quarters of a pound of powdered alum. This should all be mixed dry. Now add water in which has been dissolved about three-quarters of a pound of ordinary laundry soap to the gallon and thoroughly mix." If you find it difficult to dissolve the soap, use hot water. The strength of the mortar will of course be somewhat inferior to that of the pure mixture.

Concrete Rain Barrels.

Concrete water barrels may be molded by hanging a small barrel inside a larger one and filling the space between.



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Screens and Storm Sash are as easily hung or removed from inside as you would hang a picture. Hangers only, retail at 10c. Hangers and Fasteners retail at 15c and 25c.

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Without it rain and dampness are sure to penetrate, causing damage and unsanitary conditions.

Petrifax waterproofs the exterior. It consists of a mineral base, which is carried into the pores of the cement by a volatile liquid, which evaporates quickly, leaving a hard yet elastic surface that will not crack, chip nor peel, even under climatic changes. To cement and stucco it gives a uniform and pleasing color that these materials themselves never have, and without destroying their texture. Let us tell you more about this successful waterproof coating. We are always glad to answer questions. Ask for Booklet.

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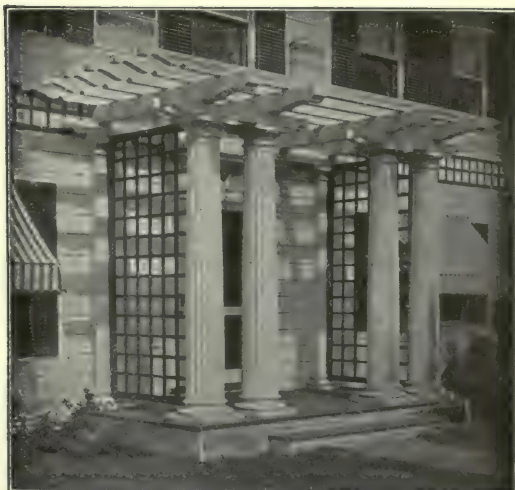
This G. R. P. quality brand of plaster is regarded by Underwriters as a remarkable fire retarder. It will give you a building warmer in winter and cooler in summer because of its density. It is so hard and tough that rats or vermin cannot penetrate it. It will not, of itself, crack, swell or shrink. It will not fall off, even if wet by leaky roofs or water pipes. It makes the

finest surface for all kinds of decoration. Used over any good plaster board it produces a fireproof wall that deadens sound—a wall without lath stains or other objections—a wall that never needs repairs.

Our book will tell you in plain English many truths about plastering. **For your own protection write at once for a copy—Free.**

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KOLL'S PATENT LOCK JOINT COLUMNS made in classic proportions, will insure your getting a charming and beautiful pergola. They are equally suitable for porches or interior work and are made exclusively by

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We offer these books at a price below the bare cost of production to acquaint you with the possibilities and advantages of concrete for houses and the importance of using the highest quality of cement.

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Other books in the Atlas Cement Library:

Concrete Construction about the Home and on the Farm	Free
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When Paint Spots.

IN two-coat work poor lumber and thin painting often cause spots on paint. The oil penetrates into the wood more freely on crossed grained and other porous surfaces, and the result is flat places in the paint which fade more quickly than a glossy paint. This makes the work look spotted.

Spotting due to poor lumber and porous surfaces can be guarded against if more care is taken in applying the priming coat. Make it a point to thoroughly fill all extra porous places with the priming coat, or go over such places twice before the second coat is applied to the entire building.

The practice of applying a coarse dark priming coat is another cause of spotting. This dark under coat is likely to show through in spots where the paint is put on too thin.

The use of too much Japan, fatty or poor quality oil, which makes the paint dry, tacky and soft, often results in mildew, which causes spotting and degeneration of the paint film.

Another cause of spotting is insufficient and improper brushing out of the paint, particularly on the priming coat. A great many painters still fail to realize that the priming coat requires as much care in applying as the second or finishing coat. Many jobs show "laps," and when the second coat goes over a priming coat which shows "laps," trouble usually results.

The surface has at least one more coat where the "laps" show than the balance of the job, therefore the paint is very likely to show spots when it fades out.

The Painting of Cement and Concrete Structures.

In painting cement and concrete structures, failure to produce satisfactory results has, in most cases, been due to the

painter's lack of knowledge of the oil-destroying properties of the alkali in the cement and of the chemicals necessary for the neutralization of these alkalies. Mr. Chas. Macnichol, of Washington, D. C., in a paper read before the American Society for Testing Materials, describes a method of treating cement surfaces for painting, which he has now used for several years with success. The method consists in applying to the cement surface, a solution of zinc sulphate and water, mixed in equal parts by weight, and using an ordinary bristle brush. It is applied after the cement is dry. The wall is allowed from 48 to 72 hours for drying and is then, it is stated, as safe to paint as an ordinary plaster wall. The reason why some such treatment should be necessary before applying a paint coating to the surface of concrete is stated as follows: When Portland cement sets, a certain amount of lime is set free in a hydrated condition as calcium hydroxide. This being a strong alkali, tends to saponify the oil in the paint coating, and thus destroy it. The work done by the applications of the zinc sulphate is to destroy the alkalinity, and change the calcium hydroxide into a mixture of calcium sulphate and zinc oxide. Another point of advantage, and a very important one to the painter, is the filling of the pores of the concrete, thus saving a considerable amount of paint which would otherwise be wasted by penetrating too deeply into the wall.

About Redwood.

In presenting their catalogue of mill work, the Foster-Munger Co. of Chicago, have compiled the following interesting data concerning the Redwood tree from which much of their product is manufactured.

"The Redwood tree is the oldest tree now in existence. Naturalists tell us that, prior to the period of the great

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Give it every possible chance to last long and to look its best. If you build well, paint well.

If it is important to carefully select the building materials for your house, it is just as important to use all care in getting the paint which will best protect those materials.

Pure white lead ("Dutch Boy Painter" trade-mark) is the standard paint. Pure white lead earned that term "standard" because it proved itself the greatest known protector of wood against weather, and because as a decorative paint it proved to give the smoothest finish.

That is why good painters like to use it. The painter mixes it with pure linseed oil at the time of painting, and makes any color, shade or tint you want.

The house that is "white-leaded" is the house that's painted right.

Our books on decoration are valuable to property owners. Ask for our "Dutch Boy Paint Adviser No. KE."

Sent upon request.

National Lead Company

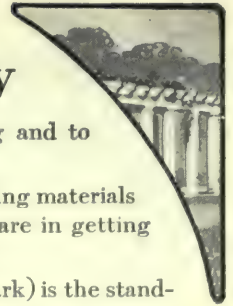
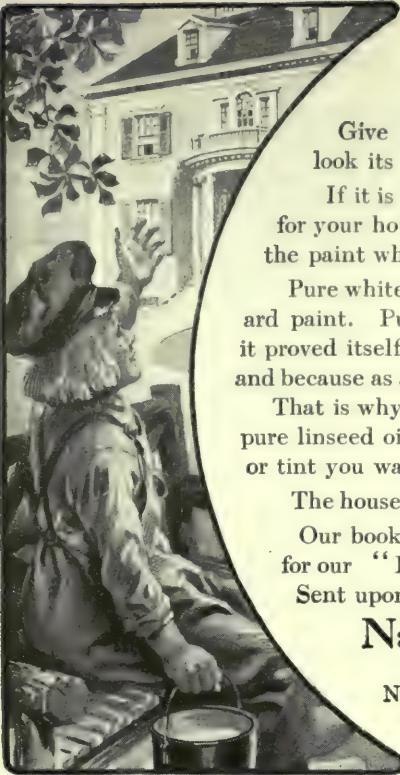
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have stood the test for over twenty-five years in all parts of the world. Thousands of people have used them, and hundreds of unsolicited testimonials have been received, showing that they look better, wear better and preserve the wood better than any other exterior colorings.

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Q One important feature is the wedge shaped tongue and groove which enters easily, drives up snug and insures a perfect face at all times without after smoothing, an advantage that is not obtained by any other manufacture.

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The entire outfit must satisfy you or you pay nothing. Isn't this worth looking into? Could we offer such liberal terms if we didn't know that the Hess Furnace excels in service, simplicity, efficiency, economy?

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Your name and address on a post card is sufficient.

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Painting and Finishing—Continued

glaciers which ages ago swept down from the north, denuding the earth of all vegetation, this species was widely scattered over both Europe and America. When the earth again reached a condition suitable to the existence of plant life, new forms of such life appeared, and of all the species of trees in prior existence Redwood alone had the vitality to renew itself.

"It is not strange, then, that these characteristics should continue strongly in evidence in the lumber produced from them. The fire-resisting qualities of the wood are best known to the housewife who attempts to use it in the kitchen stove. Its lasting—no rot—qualities are affirmed by the builder of irrigation plants and water works which use wooden pipe.

"In early days this grandest of all lumber was shipped without kiln drying and with many early users there was a prejudice formed against it, but as a matter of fact Redwood timber, the *Semprevirens*, is among the most valuable woods grown, free from shake, positively will not shrink or warp, and this species of Redwood which is grown in great abundance is as hard as its sister wood Sugar Pine, from the same state. There is no wood grown that equals Redwood for all outside work like shingles, siding, pickets, porch work, etc., and is among the best soft woods for doors and interior work. Like Sugar Pine it is harder than Red Cedar, positively will not check, warp or shrink and holds screws and nails the same as pine."

Hardwood Flooring.

Flooring is the result of a long process of evolution. The primitive floor was of

pounded clay, which later gave place to rough slabs of stone. The split log puncheon floor was the predecessor of the rough boards manufactured on the early types of frame saws. The dressed and jointed flooring of our ancestors gave place to the hand-made tongued and grooved floor of a later period.

Although in Great Britain and the continent, where they have builded well for centuries, native oak has been employed for flooring material in the better class of buildings for several hundred years, up to within the last ten years a floor of oak in the United States was regarded as a luxury only to be afforded by the rich.

Hardwood floors have now ceased to be regarded as a luxury; on the contrary, they have come to be considered as a necessity in every building, from the palatial office structure to the home of the laborer. The old soft wood floor was but a temporary expedient, and the carpet with which it was covered was a disease-breeding makeshift. In reality, hardwood floors are cheaper than carpets when their durability and the cost of maintaining cleanliness are taken into account. The sanitary and hygienic qualities of hardwood flooring need no encomium.

It has been demonstrated that oak for flooring purposes because of the density of its texture makes it practically indestructible through wear; the tannic acid which it contains renders it immune to decay, and its beauty of grain and figure causes it to be regarded as a most satisfactory flooring material.

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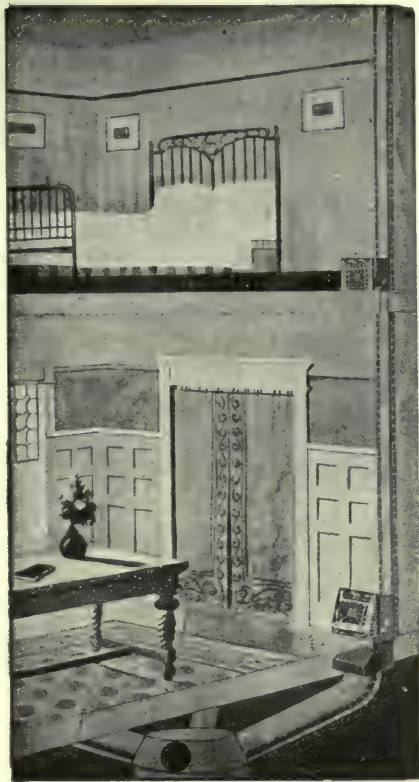
Aladdin Knocked Down Houses are shipped everywhere. Every piece of material comes to you cut and fitted and ready to nail in place. No skilled labor required. Permanent, attractive, warm and lasting. Not portable. Price includes all lumber

cut to fit, shingles, doors, windows, glass, patent plaster board, interior trim and finish, paint, nails, locks, hardware and complete instructions. Immediate shipment. Houses from 2 to 12 rooms. Save four profits by buying direct from mill. Send stamps for catalog W.

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These Improved "Jones" Registers are Installed in More than 350,000 Homes, Since 1902

IN-AS-MUCH as the plan of heating one room on the first floor and one on the second floor from the same pipe is a departure from the OLD way of heating with warm air, many people are slow to adopt this system for two-floor work; but we only ask a trial, as "seeing is believing."

Jones Sidewall Registers insure perfectly working warm air heating plants and greatest amount of heat from a given quantity of fuel. The many testimonials we are receiving is evidence of the favor with which these registers are being received.

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GENTLEMEN: Your registers in our opinion are twenty years ahead of anything else on the market.

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Mixing paints used to be a necessary part of learning the painter's trade.

Now machines do it so much better. The apprentice doesn't have to spend his days experimenting—spoiling whole batches of good paint—or worse still, putting it on improperly prepared.

He insures satisfactory results with

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High Standard
Liquid Paint

and saves his time and *your money*, for "High Standard" Paint is mixed and ground—ready for the brush—by the finest paint-grinding machinery in America.

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There is a "High Standard" paint for every purpose and a line of "Little Blue Flag" Varnishes just as complete—just as sure to satisfy.

Write for booklet "The Owner's Responsibility."

The Lowe Brothers Company

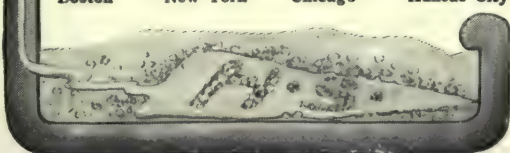
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Hot Water Heating at Boiler Level.

PREFERENCE in heating work can be secured by the man who knows what can be done with different kinds of heating systems, and it is strange how rooms in their buildings on the same level with the heating apparatus can be satisfactorily heated. Frequently portions of buildings available for transacting business or doing work cannot be used during the cold season from the inability to make it comfortable. Regardless of the kind of heating system used, these rooms can be heated if the heating contractor knows how to do it.

It is my intention to deal in this article with hot water heating, but before passing to it I want to state that in numerous instances I have taken a pipe from the top of a warm-air furnace and run it along the ceiling and attached it to a register in the side wall of a room on the same floor on which the furnace stood. This brought the hot air for heating the room in near the ceiling, and that is the place where the hot air always rushes wherever the point of delivery may be. Then I have taken a return pipe from a register in the floor of the room on the furnace level and carried it to the furnace so as to keep up a circulation.

With steam heating apparatus, hot water radiators may be placed on the side walls at about the boiler level and the condensation returning from radiators on the upper floors can run through these radiators to heat them. If a small pressure is carried on the steam system the radiators may be used for steam, with a return trap to throw the condensation back into the boiler, or a steam loop may under some conditions be used for the same purpose.

It adds to the prestige of the man in the heating business to be able to do these things for his customers. There

is as little difficulty in heating rooms on the same level when hot water is used and it has enabled me to make sales of heating apparatus where I otherwise would not have had the business. My customers have derived comfort and had the advantage of using every portion of their building for whatever work their employes might be engaged in. It is not necessary to carry the hot water up from the boiler to radiators on the floor above it and let the return water from these radiators circulate down through those on the lower floor if the mains to the radiators on the lower floor are of ample size to facilitate circulation and if they are correctly aligned, so the water will move through them with sufficient rapidity to do effective work.

At present I am heating a store building in which the basement is used for packing and shipping and some clerical work. The mains for the radiators upstairs are run independently of the work to be done on the boiler level, and the piping for the radiators on the first floor is done independently of the fact that the heater is connected with radiators in another part of the building. The piping is arranged to prevent the mains from becoming air bound and the work is giving satisfaction.

In another case a much larger building of several stories is heated with a hot water system and the entire basement in which the heater is placed is taken care of by radiators located as they should be and piped to secure a circulation through them. It will be a good thing for heating contractors to devote some of their time to a study of the operation of such plants, because it will ultimately result in bringing a profitable business to them.—Exchange.

Control and Regulation of Heat.

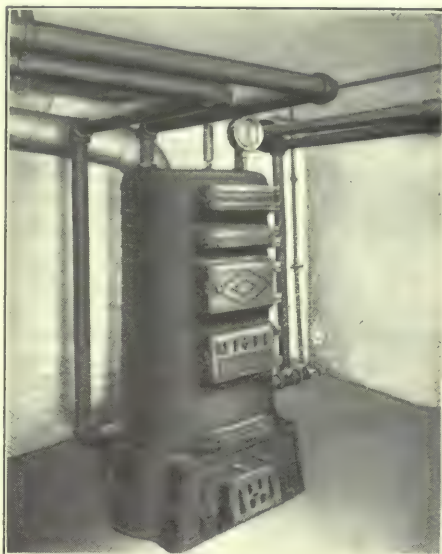
A thermometer is almost as essential as the heating apparatus itself. With furnace, hot water, or steam heat, a ther-

A Little Boiler That Does the Work of a Big One

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Radiators

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The second section is the fire-pot, which has an ingeniously corrugated inner edge giving additional heating service and preventing the deadening of the coal at the edges of the fire.

The top sections, in which the water is heated, are a triumph in boiler construction. The gases are carried up from the firepot in combustion through a series of round openings and overhanging arms in these top sections. They are carried upward until they reach a deflecting section which sends the flames down and back again to do more work.

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By actual test one small boiler with this check-draft attachment will do as much work more economically than a larger size would without it.

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Heating and Plumbing—Continued

mostat should be used, and under ordinary conditions, the temperature in the living rooms should never be above 72 degrees Fahrenheit. If proper precautions regarding humidity are taken, a temperature from 65 to 68 degrees will be found perfectly comfortable, and effect a considerable saving in the coal bill.

The regulation of the humidity is especially important. It is humidity and not real heat which is responsible for so much of the discomfort produced in the warm months of the year. A hot air furnace should always be equipped with an automatic humidifier of the right size. If it has this equipment, the proper degree of humidity can be assured in the home. If no humidifier is applied to the furnace, the water pan should be kept full of water, and a small can, or bucket

of water should be hung under each register. If the home is heated by either steam or hot water, the indirects should be equipped with a perforated pan humidifier, which is not expensive, and is so made that, while it will furnish a large volume of moisture in the air, it will not interfere with the heat.

The most important of all the requirements for controlling and regulating the heat is the ventilation. All ventilation must begin with the removing of foul air. Homes with fireplaces have a first-class exhaust vent, if properly used. If the fireplace is built solely for ornament, the top of the flue should be capped with non-down draft vent head. In homes heated by stoves or hot air, a light fire of shavings or paper, built in the fireplace will start the draft upward, and the exhaust vent will be completed. Much better results can be obtained where the fireplace can be used, as a light coal fire, or the heat from a gas log creates a strong updraft. In homes heated by steam or hot water, a positive updraft can be maintained in the fireplace by running an aspirating pipe up the flue.

One bedroom, at least, should have an exhaust vent for cases of sickness. The living rooms in homes built without vent flues and heated by stoves, will have to depend upon window ventilation and the fireplace for fresh air ventilation. When possible the window vents should be placed so to get cross circulation, by putting a small vent in two windows, placed opposite each other, or at an angle to each other in each room. If this is not possible, there should be two vents of a larger size placed in two windows as far apart as possible. This method of ventilation is more expensive in fuel than that by aspirating vent flues, but it is worth the price in the health and comfort which it provides in the long run.—Exchange.

A new chimney when "green" may not have a good drawing capacity. Short use dries out the mortar and better results follow.

Don't allow side gas fixtures to so swing that the flame will burn the wood-work or wall paper.

When the Wintry Winds Do Blow



Are you kept continually on the jump to regulate your heater? Is your house first too warm, then too cold, exposing yourself and family to discomfort and illness? All this is eliminated when you install the

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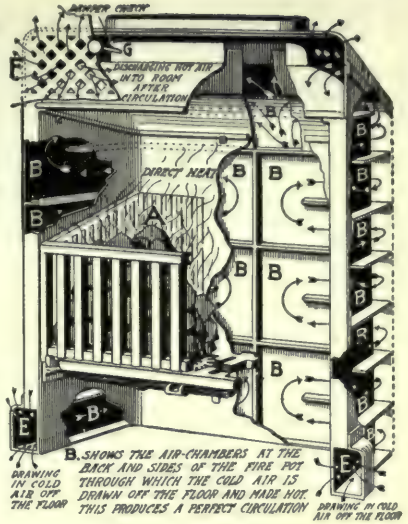
The Aldine Fireplace is really an indirect draft stove in fireplace form set into a chimney. 85% of the heat is thrown out into the room, only 15% is wasted up the chimney and one scuttle of coal is enough to give a cherry red fire for 24 hours.

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SPLINTERS AND SHAVINGS

A National Auditorium at Washington.

WASHINGTON will soon have a national auditorium for the use of the unofficial national organizations of the entire country. President Taft's recent endorsement of the plans of the George Washington Memorial Association, as well as his declaration that, if necessary, they should receive aid from Congress, has spurred the members of that Association, through all parts of the country, to redouble their activity to erect at the National Capitol a memorial building to the first President, to be used as the scene of the inaugural ceremonies of his successors and as a national assembly hall for all large organizations which wish to convene in annual sessions in Washington.

A movement is on foot throughout all the large cities of the country to co-operate with New York, the largest city of the country, and Washington, the capitol of the country, to raise a sufficient fund to assure the prompt erection of the public Memorial Hall.

The purpose of the George Washington Memorial Association is to raise by popular subscription throughout the entire country, a fund of \$2,000,000 with which to erect the hall, and \$5,000,000 to endow it, so that the expenses of maintenance will be covered and the vast auditorium and office rooms can be used as a headquarters and assembly place for national patriotic, scientific, educational or other organizations that may desire such accommodations.

It is a curious fact that Washington with its beautiful public buildings, many of which have won the admiration of the world, has not at present a hall of sufficient size to accommodate the inaugural ball of the President of the United States, and that the Pension Office, at an expense of about \$100,000, has to be used for that purpose.

In subscribing, in whatever amount, to the George Washington Memorial Building, every citizen of the country will at once pay tribute to the Father of

the Nation, and will do much to make the city, which he founded and which bears his name, become what he wished it to be, the heart and brains of the entire nation as well as the official seat of government.

In the words of Mrs. Henry F. Dimock, President of the Association, "This building must be the nation's tribute to Washington. Every one of us must have a part in it."

The entrance fee to the Association is \$5, which includes the dues for one year. Each person who donates to the fund is given an engraved receipt, bearing the head of Washington, and his name will be entered in the permanent records of the undertaking.

On the advisory council are some of the most prominent men in the country.

Houses to be of Glass.

"Within ten years people in this country will be building houses of glass, which will excel in sanitary appointments, beauty and durability, and also low cost of maintenance, any type of structure of the present time. In other words, the American people within ten years will be living in glass houses. They will henceforth be unable to throw stones."

This was the interesting declaration made by Roger S. Pease, of Pittsburg, one of the oldest glassmakers in the United States, a man who has taken an active part in all the improvements that have set the glass world face to face with the new condition and placed it in line for the greatest development in its long history. By glass houses Mr. Pease said he meant just what he said. Foundations of concrete, which are now recognized as the standard; the walls of wired glass, the ceilings and roofs of wired glass and the floors of tile, covered with a light sheeting of wood. Such a building will prove practically indestructible, can be made of any set of colors desired and requires no painting, no papering inside, will be sound proof, moisture proof and fireproof.

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"There is no art to find the mind's construction in the face."
— Macbeth.

— BUT —

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House Wise— Paint Foolish

WANY a prospective builder of a house is wise in the selection of material that goes into the house and shows excellent judgment throughout each step of its construction from foundation to furnishings and then leaves the selection of paint to some one else, thinking, maybe, that the item of painting is not important enough to justify personal supervision.

This is a great mistake. The selection of the paint that *protects the other materials* from wear and decay is of as much importance as the selection of those materials itself.

See to it then, that pure white lead and pure linseed oil paint is used on your building. Paint made from white lead bearing the Dutch Boy Painter trade-mark and pure linseed oil will stand up against all kinds of weather and will protect your house and add years to the life of it.

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Splinters and Shavings—Continued

in fifty years the American people would be forced to abandon lumber for houses. Within that time, allowing for gradual substitutions for wood in many of the arts and crafts, there would be no lumber of sufficient quantity to be of use for the purpose for which it is now used.

Something else will have to come, and with steel, iron, tile, concrete and glass the world will have these facilities at hand as the most convenient of all. Wire glass, which consists of a screen of wire placed in the center of glass sheets to prevent it from breaking or falling out after breaking, is the idea that is uppermost in Mr. Pease's mind. He regards this product as the one important basis for the new use of glass.

Inspector of Construction.

October 5, 1910.

The United States Civil Service Commission announces an examination on October 5, 1910, at the places mentioned in the list printed hereon, to secure eligibles from which to make certification to fill a vacancy in the position of inspector, qualified as a good all-round building inspector, male, at \$900 per annum, in the Quartermaster's Department at Large, Fort Crockett, Tex., and vacancies as they may occur in any branch of the service requiring similar qualifications, unless it shall be decided in the interest of the service to fill the vacancy by reinstatement, transfer, or promotion.

Applicants should at once apply to the United States Civil Service Commission, Washington, D. C., for application and examination Form 1312. No application will be accepted unless properly executed and filed in complete form with the Commission at Washington, prior to the hour of closing business, on September 24, 1910. In applying for this examination the exact title as given at the head of this announcement should be used in the application.

Issued August 20, 1910.

FENCE

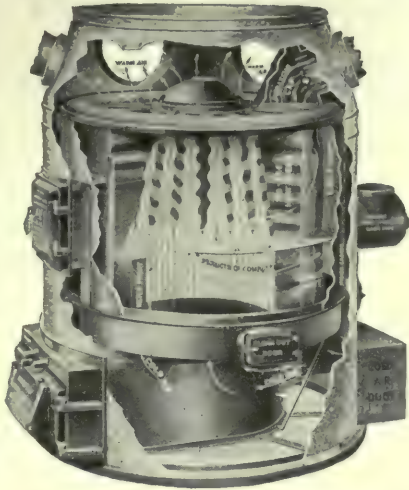
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STORY of colonial days before the bitter questions that brought on the Revolution had developed. When the colonials were still loyal subjects of England and bore the brunt of the new world battles. A younger son of a prominent Virginia family is in love with the daughter of a Spanish gentleman on the adjoining plantation. He is about to go on an expedition to Hudson Bay going first to England. Before leaving a misunderstanding is set right and he is engaged to the young lady.

Her brother, who was an officer in the navy, has disappeared because of a duel and her lover receives word from him just before sailing.

They meet in England and the brother joins the expedition. The girl and her father are visited by her uncle who is given the care of the estate for two years after the death of his brother. He proves to be a pirate and slave holder, he robs his niece and carries her off to an island in the tropics. Her lover is captured by a French privateer after a heroic fight and is sold as a slave to the uncle.

The cruelty with which he uses his slaves results in an uprising led by the lover who discovers the girl in the house is his sweetheart. They return to Virginia and the author leaves them with a happy life before them. The story gives a vivid picture of the days in which it is written, a story well told. Price \$1.50. L. C. Page & Company, Boston.

The Lead of Honor.

By Norval Richardson.

A young northerner goes down the Mississippi as schoolmaster in a Southern family. Jackson is president and the Civil War is yet many years away. Sergeant Everett makes friends readily and carries out his ambition to become a lawyer.

The little daughter of the family, in her childish way, falls in love with him. She is sent north to complete her education and he agrees to wait her return. It is very real to him, but in the years that come she loses sight of it and returns to the old home to be married to his old school friend.

Everett has become famous and is away during a campaign in which he is a candidate for congress. On the wedding day the lover accidentally kills a man and Everett gives up everything to return and defend him. The girl realizes that she has drifted away and the end seems very much in doubt up to the last moment. All the fine old southern characters are there including the faithful household slaves. The author draws a very human picture and brings his people very close to the reader. Price \$1.50. L. C. Page & Company, Boston.

The Royal Americans.

By Mary Hallock Foote.

To the reader who is familiar with the writings of this author, the book will need no recommendation. The scene is laid during the French and Indian, and Revolutionary wars and introduces the many colonial characters in all their varied phases and differences of opinion.

The sturdy patriot and the fine old English officer are none the less friends because of political differences.

Ethan Allan, Bennington and the famous catamount tavern figure in the story. The Dutch families of New York, the Quaker and the Colonial ladies of quality all add their mite to make a realistic picture of the period.

The pretty love story of Catherine, daughter of Colonel Yelverton, who as a young lieutenant ran away with her mother, is told with all the dramatic interest and fervor of the author, making a story which will be welcomed by her many friends among the reading public. Price \$1.25 net. Houghton Mifflin Co., Boston and New York.

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CONTENTS FOR NOVEMBER

	Page
EDITORIAL.....	290
GARDEN SEATS	293
AN ATTRACTIVE EIGHT-ROOM BUNGALOW	296
CONSTRUCTIVE DETAILS OF THE HOUSE.....	299
TYPICAL AMERICAN HOMES.....	302
FIVE CLEVER BUNGALOWS	305
THE EDISON CEMENT HOUSE	309
THE BUILDING OF A PRIZE CEMENT HOUSE	310
DESIGNS FOR THE HOME BUILDER.....	312

DEPARTMENTS

DECORATION AND FURNISHING.....	324
ANSWERS TO QUESTIONS ON INTERIOR DECORATION	330
HOUSEHOLD ECONOMICS.....	334
TABLE CHAT.....	338
CEMENT	342
PAINTING AND FINISHING	348
HEATING AND PLUMBING	352
THE CHIMNEY CORNER.....	354
SPLINTERS AND SHAVINGS	356
GLIMPSES OF BOOKS.....	360

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KEITH'S MAGAZINE

VOL. XXIV

NOVEMBER, 1910

No. 5

Garden Seats

A Useful and Pleasing Addition to the Home Grounds

By Mrs. Kate Randall



BRICK AND STONE ARE MOST IN HARMONY WITH THE STRICTLY FORMAL GARDEN

FOR those who neglected to provide comfortable garden seats early in the season, there is still time to repair the neglect, and enjoy them through the beautiful autumn days, and have them ready for another year.

No garden is as charming as the one

where easy seats are scattered about under the trees, or in quiet corners, tempting one to rest and enjoy the peace.

One need not be discouraged by lack of money, for most artistic seats may be had—almost for the making—where hickory and eucalyptus trees can be found. The round branches, with the



SEAT IN COMBINATION OF WOOD WITH BRICK AND CEMENT

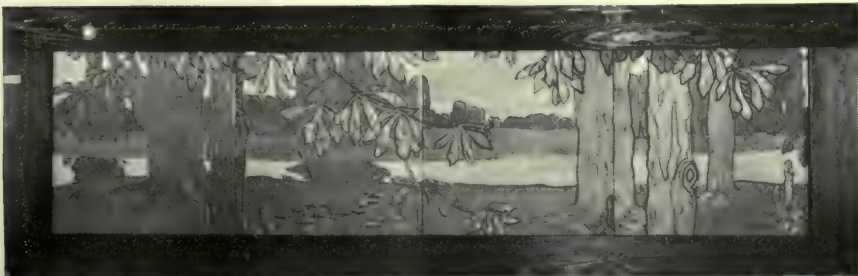


THE SIMPLEST FORM OF SEAT—EUCALYPTUS BOUGHS WITH BARK STILL ON

bark still on, make the simplest seats. In fact, wood in every form is the most comfortable material, though perhaps not the most artistic. Brick, burnt brick, cobble stones and cement seem more in harmony with the strictly formal garden and are much used, veritable boulders as well as small stones being incorporated. One of our illustrations shows how wood and burnt brick can be combined. The Pergola, or rustic roof, over many seats, is a very picturesque, as well as comfortable arrangement. The illustration shows such a construction before the vines have entirely covered it. Personally, I have a great fancy for the Italian carved marble seats. These have the seat itself of wood, but the supporting ends are carved in the forms of lions, griffins and other grotesque creatures. Now that the casting of cement has proved so successful, it should be possible to cast these figures in that material. They might lack the delicacy of the softer marble, but gain in vigor and durability and be more in keeping with the immense amount of cement now in use. Endless combinations of materials may be made as one's taste and the surroundings suggest, and almost anything, except iron, will be successful, the main point being to have the seats.



AN ITALIAN CARVED MARBLE SEAT



An Attractive Bungalow for \$2,900

By CHARLES ALMA BYERS

(Photographs by the Author)



A GLIMPSE OF THE PORCH SHOWING PERGOLA EFFECT



HIS attractive eight-room bungalow, recently built in Montecito Park, near Los Angeles, California, for \$2,900, possesses a number of admirable features that should readily commend it as an adaptable style to the prospective home builder. It presents a low, rambling appearance, with excellent structural lines, and is, for a bungalow, unusually well constructed throughout. It is built to enclose on three sides a small pergola-court, flanked on the remaining side by the driveway, which passes through a sort of porte cochere. The woodwork of the house

consists of Oregon pine for the framing and porch and pergola timbers, and cedar shingles for the siding and roof, while concrete and cement constitute the masonry work. The parapet of the front porch is designed to provide a long, narrow box for plants and flowers, producing a novel and very admirable feature. The color scheme of the woodwork consists of two shades of rich brown.

The house contains living-room, den, dining-room, sewing-room, kitchen, two bedrooms and storage room, besides a screened sleeping-room, with a built-in disappearing bed, and the bathroom.



THE FRONT WITH VIEW OF COURT AND PERGOLA AT SIDE



THE DINING ROOM WITH SIDEBOARD SEEN FROM THE LIVING ROOM



A CORNER OF THE LIVING ROOM SHOWING THE FIREPLACE

The living-room and den have fireplaces, constructed so that but one chimney is necessary. These two rooms, as well as the dining-room, have beamed ceilings, and the woodwork of the three rooms is of Oregon pine, finished to resemble fumed oak. The walls are papered. A broad arch, with built-in book cases on either side, connect the living-room and dining-room, and French doors from the latter lead to the court. The dining-room possesses an excellent built-in corner buffet. The walls of the remaining rooms are tinted in delicate colors and the woodwork is enameled white.

The screened sleeping porch is one of the house's most appreciable features. The disappearing bed makes it possible to convert it into an excellent outdoor

lounging place when desired, and to more admirably fit it for such it is provided with a hammock, rustic chairs and a table.

The bungalow was designed by W. R. Worthen of Los Angeles, California.

The following is an itemized list of expenditure:

Lumber	\$720
Carpentry	600
Masonry and Plastering.....	410
Painting and Papering.....	290
Sash and Doors.....	250
Hardwood Floors	180
Hardware	90
Plumbing	270
Electric Work	90
	<hr/>
	\$2,900

Constructive Details of the Home

The Soil, Foundation, Wall and Drainage

By H. EDWARD WALKER



UNLESS the character of the soil is known it is impossible to properly determine what will be the best material for the basement wall and the exact method of its construction. The item of cost is a factor that may be governed somewhat by the soil. If gravel is encountered in the excavation, a wall of concrete should be cheaper to construct than one of stone, but competitive figures are sometimes surprising. If gravel or crushed rock must be brought from a distance, a concrete wall will cost as much or more than stone. Many now prefer the concrete wall at least up to grade, because it is all in one piece, a solid unit throughout its whole extent. This is largely so in a stone wall set in mortar, but any deterioration in the stone itself, may produce an unstable wall, even though the mortar is good. A concrete wall of properly mixed aggregates containing the right proportion of cement, carefully placed, is not open to this objection.

Brick walls are used below grade in some localities where stone is scarce, but are objectionable because of the moisture they absorb.

Since concrete has come into general use, brick for basement walls will be used only where concrete aggregates are more difficult to obtain than clay products, a condition that is possible but rare.

The composition of the soil has an influence upon the amount of water encountered and if in any quantity it will necessitate special methods to carry it off and to prevent it going through the wall.

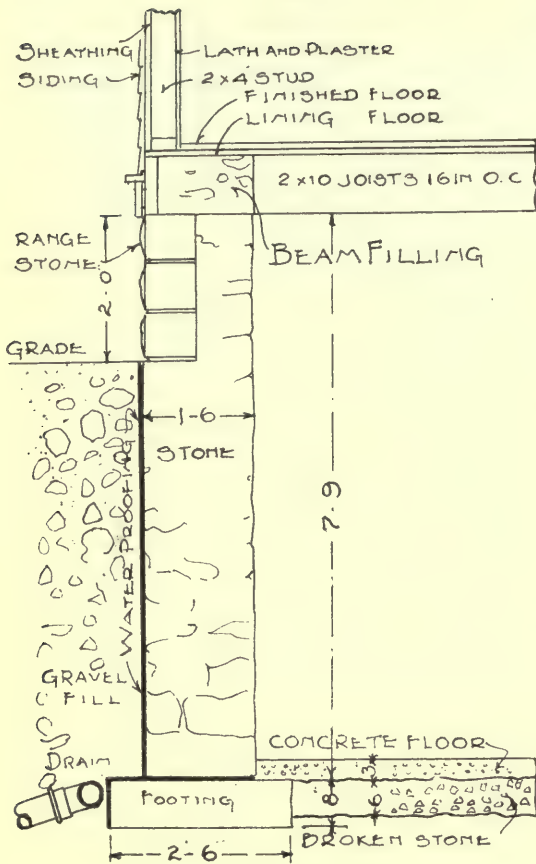
If there have been no previous excavations in the locality to determine the general character of the soil, it can be investigated by boring at short intervals about the site, with a 2-inch auger. Samples will be thus obtained upon which to base an opinion.

Water is often encountered where the land is a flat between high hills. Even though surface indications are perfectly dry, investigation reveals an underground lake, requiring piles to make it at all suitable for building purposes.

Soils are classed as rock, ordinary soil, and made ground. Foundations are of relative value in the order named, level bed rock, sand and gravel, and clay for moderate loads, if kept dry. If quicksand is encountered it can sometimes be removed. Soft, mushy ground may be piled or the footings of the wall spread enough to reduce the pressure to the safe load.

Made ground, usually composed of ashes, garbage and general refuse will carry small buildings without difficulty if care has been taken in its preparation and it has had time to thoroughly settle. For more important work its bearing power should be tested.

Basements built upon sand, gravel or chalk subsoil are not likely to be troubled with water unless the lot is situated in a basin. Sand overlying clay, in a damp soil, will be unstable if the water is drained away later. The presence of a body of clay in a soil composed chiefly of gravel may divert water to a wall built in a location usually dry. Clay is affected



(Fig. 1)

SECTION THROUGH BASEMENT WALL

by atmospheric conditions and foundations built in it or other damp soils should be started well below the frost line. Four feet is a minimum depth for a foundation below grade. Sand makes an excellent foundation if it is confined laterally and not influenced by running water.

A wet soil should be drained about the foundation at the time it is built to avoid trouble later on. There are various ways of preventing dampness in cellars, the best being those which keep it out of the walls from the outside, rather than those that take care of it after it has entered. A good way is to place an open jointed tile down, on a level with the footings, all around the house to drain into the

sewer, a constructed pool, or other convenient outlet.

The outside of the walls and footings should be thickly plastered with cement mixed 1 to 1, or asphalt and coal tar in proportion of 9 to 1 may be applied hot $\frac{3}{8}$ inch thick to the dry walls. This course should also extend in, across the wall, at the underside of the concrete floor as shown in figure 1, the floor being 3 to 4 inches thick laid on a bed of 6-inch or 8-inch broken stone. There are numerous preparations upon the market that will give excellent satisfaction, used in place of the asphalt and coal tar. A space from 12 to 18 inches should be left between the wall and the bank, to be filled with broken stone or gravel. This treatment will prove effective under almost all circumstances with which the home builder will have to contend. An exception to this would be a location where the rising and falling of the tide of the ocean was the cause of the difficulty. Among other preventatives may be mentioned numerous compounds manufactured, that are mixed with the concrete. Good results are thus obtained but not too much dependance should be placed upon any one method. Very ordinary conditions of dampness may yield to simple treatment, but where they are severe, several inexpensive methods may be combined at the time of construction. The cost of introducing a waterproofing compound into a concrete wall would be insignificant at the time it was built and may be considered, even though other preventative measures are also employed. It is advisable to use every care to insure a dry basement.

Most of our readers are chiefly interested in this subject after the mischief is done. The situation did not appear as serious when the house was built as it later proved to be and they are confronted by a condition, not a theory.

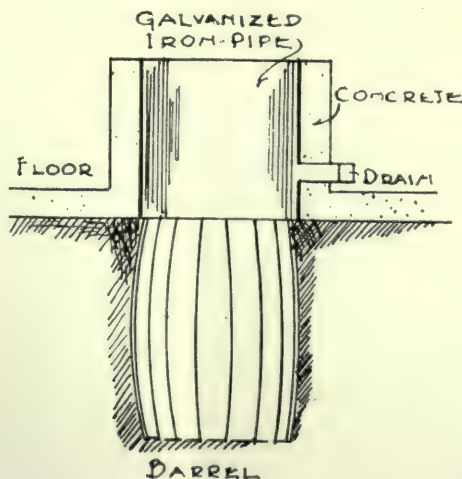
It is first necessary to determine what is required in the given example. While

no expense should be spared to insure success there is no advantage in going beyond that. If only a little dampness is apparent soon after construction, time should be given for improvement in natural ways. It may disappear in a short time. If the water is persistent and evidently permanent, its amount should be considered, its effect upon the cement floor and the general character of the soil in which the basement is built. Where the pressure upon the floor is not sufficient to threaten its destruction, a very simple and economical method may be employed that has proved very satisfactory even in worse conditions than those stated. Select a position upon the floor not too close to the wall, that is not in common use for passage or storage and make a hole large enough to admit a barrel. Dig out the space and sink a barrel from which the heads have been removed, replacing the earth carefully about the sides. The top of the barrel should be on a level with the underside of the cement floor and a piece of galvanized iron pipe of the same diameter as the barrel head, should be placed in position upon it, projecting about 18 inches above the floor, or more according to the water level usual in the basement.

Place an outer form of wood or sheet

iron about the pipe and fill the intervening space with concrete, with a small drain pipe and plug as shown in Fig. 2. When the concrete has hardened the outer forms may be removed. A protecting cover should at all times be in position to prevent accidents. The principle on which this method is based is, that the water, seeking its natural level in the plane of least resistance, will drain to the barrel, rise in it and the pipe, thus relieving the pressure upon the floor, allowing it to dry out. The small drain provides for the removal of water above the floor level. The conditions would not be equally bad at all seasons of the year. In a great many cases if the water was pumped out the space would be practically dry for several months. As a cold storage space in warm weather it would be of special value. The materials used may vary, those noted having been employed because of economy and ease with which they can be installed. This method would be much improved if it was possible to connect it properly trapped with a sewer. However, this would be expensive and not practical out of town. The solutions given will be as simple and easy to put in practice as the situation will allow.

To be continued.



(Fig. 2)

Typical American Homes

A Plea for Neighborhood Uniformity of Architectural Style



A BRICK HOUSE ON PLAIN, SIMPLE LINES

Cecil Bayless Chapman, Architect

AMERICAN residence architecture as seen on the streets is hardly what it should be. Not that there are no really artistic and well planned homes, but that they have nothing in common with each other for the most part. Brick, stone, cement and frame structures are all huddled together with no thought as to harmony of general effect. Each one builds at his own sweet will and aside from having his private opinion about the beauty or lack of it in the adjoining houses thinks and cares nothing about them.

As long as his own house is satisfactory the neighborhood generally is not considered. Again as to architectural

styles, few houses possess any at all and those that have are sandwiched in between others so radically different that the appearance of the street is most unsightly. Even the building lines at front are not carefully observed being a different distance from the sidewalk on sides of the same street or are disregarded by individuals. If the whole block was laid out after a general scheme the lot line might be varied to advantage but not in the haphazard manner that now obtains. How much different our cities might appear if we were content to use a little more ground for the individual lot even if the city must be of greater area. What an advantage it would be if certain styles



A QUIET DESIGN IN BRICK AND HALF-TIMBER Cecil Bayless Chapman, Architect



A PLEASING SQUARE HOUSE IN CEMENT STUCCO A. L. Dorr, Architect

of architecture best adapted to certain localities were confined to them. If a certain district was hilly and streets, of necessity irregular in direction and grade, the Swiss chalet would lend itself admirably to such an environment and with proper trees and shrubbery would be very beautiful.

The style is adapted to houses of different sizes and in skillful hands would make a very picturesque locality. In like manner certain sunny exposures would indicate the red tile roof and stucco wall of the Spanish Mission or Italian styles.

The English half-timber style and similar types of continental architecture would furnish splendid material for a unity of neighborhood design. The charm of the early days in New England villages was due to the simplicity of the Colonial detail and excellence of design, with the almost universal use of white painted siding with green blinds. The community had a certain uniformity of appearance as a whole even though the buildings were of different size, use and value. Study abroad has taught us the beauty of architectural styles in many countries but it has not yet been sufficiently impressed upon us that these styles must not be built indiscriminately side by side, if we are to have beautiful cities and picturesque villages. The idea is gathering force, however, for certain towns are considering the advisability of having the whole of the main street changed to make a pleasing picture such as one sees in European towns.

This will be accomplished by adding to and taking from the present structures with such changes in detail and design as may be necessary. In the reconstruction much of the work must be sham but would seem to be justified if the whole effect will be as shown in the illustrations of before and after. If we could only get together and do it "before" there would be no necessity of the "after." Let the early home builder choose a style appropriate to the surroundings and new comers follow in his footsteps. Then we may look for improved conditions. Our first illustration exemplifies something of the foregoing ideas. Here is a brick house on plain simple lines.

One of those houses of quiet dignity which makes no bid for public notice by reason of unusual features.

It looks rather bare and severe without a tree or a shrub to soften the outlines about the base. The houses on the neighboring lots have nothing in common with this house, being of frame and of a style that the writer hesitates to classify. There is character about the brick house which would make it an acceptable addition to a neighborhood containing other houses in keeping.

Not that it is held up as a model but as a type that might be elaborated or adapted to create a unity of architectural expression in a locality. The next illustration shows a house which is in harmony with the first although it belongs to a more distinctive style. The first story only is of brick, the second being of frame with stucco finish on expanded metal lath.

The house is severely plain and without the green of lawn or shrubbery appears somewhat sombre in the illustration.

Properly surrounded with shrubs and with flower boxes at the windows this house would be very attractive. Red brick, grey stucco and brown stain is the color scheme.

Quite often a photograph idealizes but in the case of the little square stucco house it does not do justice. The broad flight of steps leading up to the cosey screened porch gives a very hospitable appearance. The vine lattices at either side are stained brown like the general stain of the house and the vines that have since grown add much to the beauty of the exterior.

It is a simple little home of good materials, restful and quiet in its whole effect. A district built up of houses in harmony as to style and materials as these are, would make values greater and mean much in their influence upon prospective builders.

Much more ornate structures along these same lines could be designed in good taste and it is to be hoped that as we progress year by year we will build more by communities as a whole and less by individual nondescript structures.

Five Clever Bungalows

The Artistic Merit of Individual Details

By EDITH EVERETT

(Photographs by the Author)



No. 1. THE ENTRANCE PORTICO OF CREAM STUCCO

CALIFORNIA has been called the home of the bungalow. Searching about Berkeley, with a kodak, one day I came to these five types of bungalows—two plaster and three shingle. Two were located on main streets, and two were further out in the newer additions, on the hillside, as it were; while the fifth was tucked quite away among the hills.

No. 1 is a rough cream plaster house, with dark stained wood trimmings. The picture shows the neat walks, the front lawn and the cute entrance, but it was impossible to get a complete view of the house, for there are trees along the front

walks, a house on one side and a high board fence on the other. Hence the view as taken shows only the front of this novel little structure. The plaster pillars, and cement floor of the porch are offset by the dark wood roof. The odd shaped windows, with their dark wood frames, every one broad and none very long, are a feature of this delightful five roomed bungalow. The rough brick chimney is exactly in the center of the front. From the porch the visitor passes into a square reception room or hall. From here a broad doorway leads to the living room. As the chimney indicates, this room contains an immense fire place.



No. 2. ENTRANCE PORCH AND FRONT CHIMNEY

It is a large room, and, as is appropriate in bungalows, is the room of the house. At the back of the hall is the entrance to the dining room. At the end of the long living room is a bedroom and bath and back of the dining room, is the neat little kitchen.

No. 2 is another five roomed bungalow of the popular shingle type. This also has a chimney at the middle of the front, and the entrance at the side-front. The lawn is fourteen by fourteen, a palm tree at one side gives shade and somewhat obscures the view in the picture. Along



No. 3. THE "NOOK"—A SHINGLED BUNGALOW

the front walk is a row of palms. In this house the cute little porch and entrance is also a feature. Here one enters the living room first. It contains a large fire place and is the important room of the house. This bungalow has all modern improvements, two bedrooms, a living room, dining room and kitchen. For a very inexpensive home this bungalow is certainly most desirable.

No. 3 is called "The Nook." It is another shingle bungalow—hardly a true bungalow in that there is an upstairs—or rather in the space under the roof there are two cleverly fixed bedrooms. This is an artistic home, the flowers and vines almost hide the odd little porch. There are flower boxes along the porch, and the door is at the side of the porch. There are five rooms on the first floor. "The Nook," so beautifully kept, is a pleasant home.

No. 4 is a white plaster bungalow, with dark wood trimmings. Built on the bank of a creek up in the Cragmont addition to Berkeley, its situation is perfect. In the background can be seen the higher

hills, decorated here and there by houses, and near by the laurel trees of the picturesque little stream. The entrance to this house is particularly pleasing. The broad cement steps, the tiny porch with its dark wooden posts, the broad doorway of dark wood make a pleasing contrast of light and dark. Here the dining room and kitchen are down stairs. For built as the house is, on the slope, the basement is light and airy, and has not the usual faults attributed to basement rooms. On the main floor are four large rooms and a bathroom. There are two bedrooms, a living room and a den, besides the hall. In some ways this is the cleverest house of the five, for it is so beautifully built to fit its sylvan surroundings.

No. 5 occupies a little oasis in the hills—far up in the Berkeley hills. The trees and bushes of the creek are in the background. In front of the house is a patch of lawn, where a little fountain plays. At the side, as the picture shows, is the mustard and grass of the uncultivated land. This is a shingle structure.



No. 4. A WHITE PLASTER BUNGALOW WITH BROAD ENTRANCE STEPS

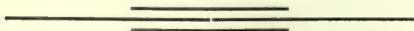


A LOW ROOFED SHINGLED BUNGALOW AMONG THE HILLS

The entrance is on the side. At the front is a porch window box arrangement. Three long French windows give access to this tiny porch. The house has four rooms and a hall. Its windows, except the three front ones, are of the square style. The door opens into a small hall. The living-room occupies the whole front of the house. At the back of the hall is the dining-room. On one side of the hall is a bedroom. At the back corner nearest the stream is the tiny kitchen. Just the house for the location.

While Nos. 1 and 3 are a little more expensive and perhaps most beautiful, Nos. 4 and 5 are so in keeping with their surroundings, so adapted to their little nooks, that they particularly delighted me. For they show what architects are trying to teach—that the house should be adapted to its own location.

The possibilities of the shingle bungalow, the charms of the plaster bungalow, are well expressed in these five views—houses much alike in size, but widely different in looks, individual and artistic.



The Edison Cement House

A Practical Demonstration to Be Made Under the Personal Supervision of the Inventor



FOR the first time at any cement show, the Edison poured cement house will be exhibited to the public at the coming cement show in Madison Square Garden, New York City, December 14-20, 1910.

Mr. Edison has consented to make a display of his poured cement house and to personally install and supervise the exhibit. This is the first time that the result of Mr. Edison's experiments will have been demonstrated outside of the laboratory.

The plan upon which Mr. Edison has been working is, briefly, the completion of a set of steel molds which can be used time after time in pouring houses. It is said that the great inventor has produced a mixture of a consistency almost like water which holds the aggregate in suspension, allows the mixture to flow freely to all parts of the molds and secures a uniform distribution of the concrete throughout. The molds are capable of variations of arrangement, making possible different styles of houses from the same set of molds. With a half dozen molds, therefore, a wide diversity of styles will be possible.

Mr. Edison and his engineers claim that such a house can be built for \$1200. It is intended for one family, is to be built on lots about 40 ft. by 60 ft. and has a floor plan 25 ft. by 30 ft. There is an 8 ft. porch in front and a small rear porch. The house is not to be of plain panels, but will have considerable exterior ornamentation. The ornaments will be cast with the house and will be reinforced concrete, including the roof, floors, inside walls and stairs.

Mr. Edison proposes to erect the molds

for such houses in four days. After the molds have been assembled, the time allowed for pouring the concrete is six hours. Fourteen days after the pouring, the house is complete. It is estimated that with six sets of molds, one hundred and forty-four houses can be built in a year, the forms being used indefinitely, thus reducing the cost to a minimum.

It is stated that most of the difficulties encountered in this method of pouring houses, have gradually been overcome. A mixture has been found which can be readily poured and which will flow to all parts of the mold. A method has been evolved for removing the interior molds after the pouring. A common objection to the Edison house is based on artistic grounds. It is said all houses look alike and that a whole row of houses, built by one set of plans, would result in painful monotony. It is only intended that these molds should be used for workingmen's houses and they are so made that the parts may be interchanged so as to produce different architectural effects.

A complete set of molds are to cost approximately \$25,000.00. That this idea of pouring cement houses is destined to play an important part in the industrial world is already evidenced by the action of the American Sheet & Tin Plate Co., in building two hundred workingmen's houses of concrete at Gary, Ind., using a set of steel molds which are of their own design and construction. The plan is strikingly similar to the Edison idea of pouring houses.

The demonstration at the New York Cement show in December next, will be looked forward to by cement men all over the country with intense interest.



Francis H. Carton, Architect

PERSPECTIVE VIEW OF EXTERIOR

The Building of a Prize Cement House



AT THE third annual cement show held last February in Chicago there was given the winner in a guessing contest, the material for a cement house, to be built where the winner wished, with materials furnished by the exhibitors.

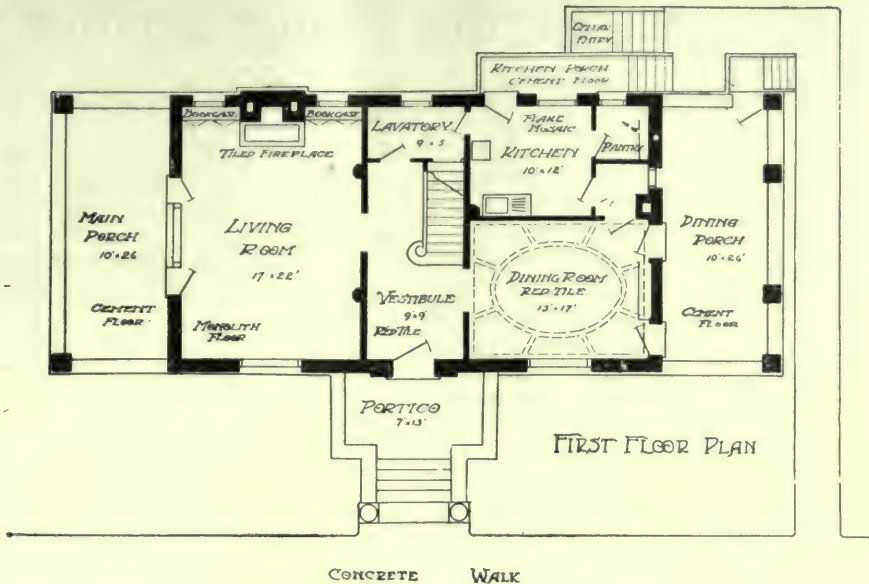
The winner was Miss Lillian M. Williamson of Englewood, Chicago. The plans and specifications for the house were drawn by Francis H. Carton, architect, of Chicago, and it is now under construction in Walden, a superb south of Chicago, on the Rock Island railroad. Cement is being used throughout the building, wherever possible. The house is to be a perfect example of what is possible in cement residence construction at a moderate cost. The walls and partitions are being made of hollow cement tile. The exterior of the walls are to be finished with a rough cast cement plaster coat. The foundations are of solid plain concrete, and the floors and stairways will be of reinforced concrete. Red ce-

ment tile will be used in the roof, which will be surmounted by two concrete chimneys with round tops.

In general outline, the house is rectangular in shape, has a screened porch at each end and a small entrance portico in the center. Little attempt will be made at exterior decoration, a simple molding being used at the second floor level and a molded cornice relieving the plain concrete wall. The reinforced concrete floors will be surfaced with a special composition of varying colors in the different rooms. The baseboards are to be of the same material as the floor, carried up as a border.

The house will have two fireplaces with window seats on either side and a square of red tile in front of each. The fireplace and mantel will be of solid reinforced concrete with molded decorations. The bookcases and china closet are to be built in and have leaded glass doors. The dining room will have a beamed ceiling with an oval central panel from which the

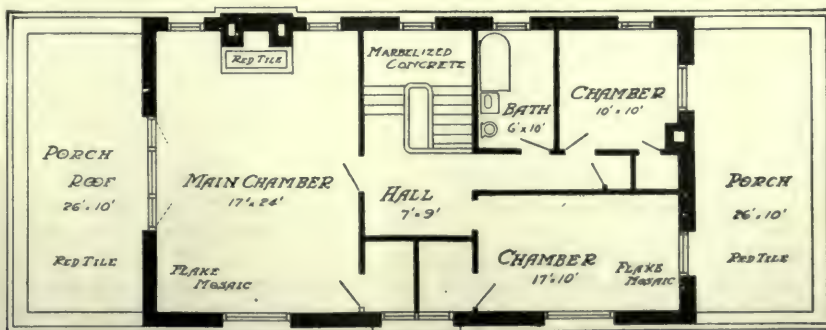
DINING ROOM
MONOLITH FLOOR



THE ARRANGEMENT OF THE FIRST FLOOR

beams radiate, carrying out the idea of decoration by means of actual structural details. There is provided two spacious porches, one opening off the dining room and the other off the living room. These are entirely separate from the entrance portico, giving the full privacy of an interior room with the advantage of screened exposure on three sides. They open through two generously big French doors, making each porch a unit with the interior room.

It has been the aim to make every line harmonize with its material. In the open doorways, the flat arch is used and where beams and columns are needed for support, they are plainly exposed. Nothing has been attempted in structure or decoration which does not harmonize in concrete, the aim being to show the highest example of true concrete construction and decoration throughout the building.



ARRANGEMENT OF THE SECOND FLOOR

Designs for the Home-Builder



THE prospective builder of a home will find a variety of designs and architectural styles to aid him in making a selection.

If one can afford it a concrete house such as is illustrated would be a desirable house to own, being absolutely fireproof, vermin proof and requiring no exterior paint. If his taste runs to the picturesque, the English half-timber motives are very pleasing and possess much character. The small cottage and the large house alike are designed with equal success in this style. Even the cement block which has been its own worst enemy in its early development, may be a very successful material if of good quality and used in a cottage as carefully designed as that shown.

Not every one-story house with wide spreading cornices is a bungalow in the real sense of the word. A broad, artistic treatment is required with unique, "snappy" detail, to produce just the right feeling. Note the restful, homely air of those shown. Few people realize the beauty of such a home from an illustration, but must see it already in the possession of another, before it is appreciated.

Much the same might be said of the artistic cottage. It must possess individuality to be really good, free from any attempt to look like a full, two-story house. There is much of suggestion in this department this month and the home-builder is urged to make a start this fall. Get the house well along, live in it this winter even if the exterior must receive the finishing touches in the spring. It has a rental value to you and will save quite a sum by spring if occupied soon.

Design B190.

Exterior walls to be constructed of 8" blocks in thickness and laid in pattern form above 2d floor band as shown. Inside walls to be of 4" blocks in thickness and some channel and metal lath partition. Floors to be 6" thick with twisted

bars for reinforcing. Roof to be red tile fastened to T irons on steel frame construction. Approximate cost as follows:—

Concrete work and iron work..	\$6,000.00
Excavating	100.00
Carpentry	1,300.00
Plumbing and gas fitting.....	800.00
Painting and glazing.....	300.00
Sheet metal and roof.....	400.00
Heating	500.00
Plastering	300.00

Total\$9,700.00
Cubic contents, 400,400 cubic feet.

Design B191

This house in the picturesque English half-timber style, is very pleasing in its quiet setting. The brick wall enclosing the grounds gives that exclusive effect, so desirable in a gentleman's home, and is quite in keeping with the style. The first story is of red brick laid with a wide white joint and the upper stories are of frame with stucco between the timbering. The details are refined and the soft brown stain of the wood harmonizes with the grey of the cement. The roof lines are pleasing, but a small dormer in the centre of the wide expanse at the right of the front dormer would add much to the architectural beauty of the house. From the porch and vestibule one enters the hall, where columned openings afford vistas of the dining-room and living-room. Through the coat closet beneath the stair direct passage is obtained to the kitchen, from which is also a combination stair to the stair landing.

The living-room is a splendid room, with beamed ceiling and large fireplace. At the far end is the solarium, facing the south.

The dining-room has a beamed ceiling and a sideboard. The kitchen is reached through the pantry. The refrigerator is located in the entry from rear porch. The feature of the second floor is the

DESIGNS FOR THE HOME-BUILDER—Continued

family chamber, with its fireplace, numerous closets, lavatory, shower bath, etc. It occupies the same space as the living-room below and opens upon the south to a balcony over the solarium. Two chambers, a sewing-room and bathroom occupy the balance of the second floor space, with stair. The attic contains the ballroom, and storage space. The laundry has a chute from the floors above and an outside entrance. Hot water heat.

The finish for main rooms of first floor is oak with birch in kitchen part and on second floor. The architect states the cost at \$10,000.

Design B192

The first story of this house is of brick veneer with solid brick piers for the porch and foundation of stone. The second story is of stucco finish and half timbering, forming a pleasing contrast.

The staircase hall is located on the left and sliding doors separate it from the living-room, which has a beamed ceiling and a brick fireplace. The dining-room also has a beamed ceiling with sliding doors between it and the living-room. The kitchen is reached through the pantry or from the front hall. It is well appointed and the refrigerator is iced from the rear porch. There is a combination stair with basement stair and grade door beneath. The basement contains laundry, fuel bins, hot water heater and storage space. The four chambers on the second floor will be found amply supplied with closets and besides the linen closet from hall there is one contained in the bathroom. A stair leads to the attic, which is of good size. Finish of first story, oak and birch with hardwood floors. The second story hall is in birch and the rest in white enamel with birch floors. Size 26 ft. by 32 ft. without projections. The cost is estimated at \$4,500.

Design B193

The accompanying design shows a wide piazza across the front, with piers of cement blocks. It is a very unique plan, with a large living-room, 12 by 24 feet, across the narrow front. The vestibule entrance is in the center, with living-room on the left and dining-room on the right. At the end of the long living-

room is an open fireplace, with bookshelves on either side, forming an attractive feature, the stairway leading up at the right side, convenient also for the kitchen, with grade entrance and steps leading up to the kitchen.

The second story has three nice chambers provided with ample closets and a good bathroom.

There is a good basement under the entire house, with laundry, furnace room and vegetable cellar, size 25 ft. by 30 ft. It is estimated that this house can be built, exclusive of heating and plumbing, for \$3,000, finishing the lower floor in hardwood, and the second floor in pine with enamel paint.

Design B194

This is a very small, but at the same time very artistic and picturesque bungalow. There is a wide porch across the whole front with pergola effect and the walls are sided. The brick chimney is an interesting feature accommodating the brick mantel in the living-room. The dining-room is in connection through a wide cased opening and communicates with the kitchen direct. In the entry is the ice box, and the stair leads down to the basement, which occupies only a small portion of the ground area. A small furnace might be installed, if desired. There is a good chamber, a bathroom and linen closet. The finish and floors are of Georgia pine throughout. Just for two this would be a very charming home.

The size is 28 feet wide and 24 feet 6 inches deep, exclusive of the projection of the kitchen. The cost is estimated, including plumbing, to be \$1,900.

Design B195

For two people without servants there is nothing nicer than a cozy little bungalow such as is shown in this design.

Its exterior is plain, but of pleasing details, with its chimney, bay window and attractive porch. The living-room is large and contains a wide fireplace and seat. It is here that a small table is set at meal times before the cheery grate fire. The kitchen is handy and convenient, with entrance to cellar at rear. The bedroom with its pretty bay window is a very pleasing room. It contains a large

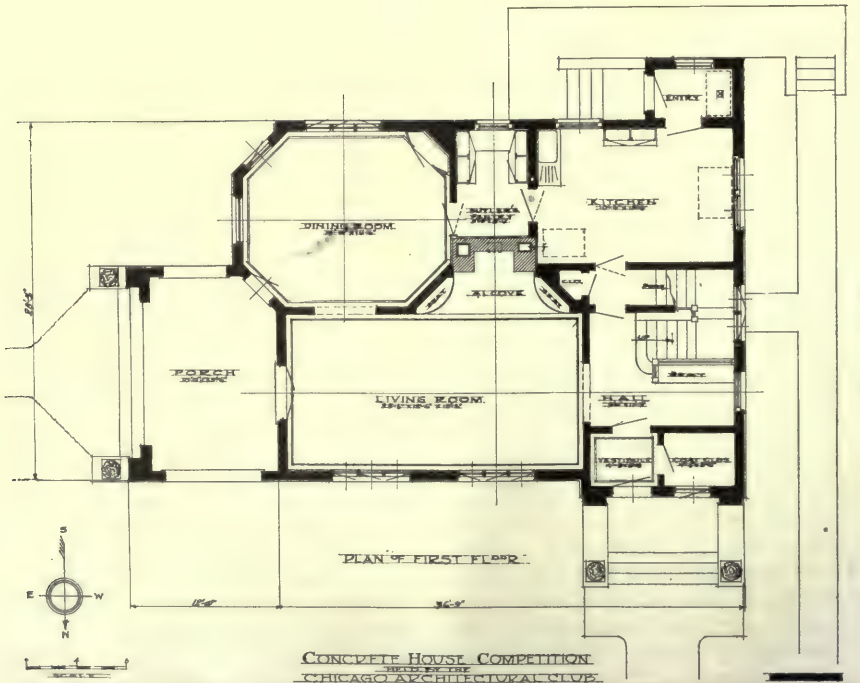


Courtesy of Universal Portland Cement Co.

ELMER T. NETTENSTROM, Designer

An Attractive Concrete House

DESIGN B 190





DESIGNS FOR THE HOME-BUILDER—Concluded

clothes closet and opens directly upon the bathroom. These two rooms are finished in white enamel, the other rooms and all floors being in birch. Stoves may be used for heating but a small hot water plant is included in the estimate of cost, \$2,000. Size, without projections, 30 ft. by 26 ft.

Design B196

This is a very effective design with its gambrel roof and extensive porch. It contains seven nice rooms with pantry and bathroom additional. The arrangement is very pleasing and the details of construction carefully carried out.

It is not intended to have any basement whatever, although this could be readily arranged; either a small cellar or full basement as desired. No heating is included, although a full set of plumbing fixtures are. The finish is intended to be pine, cypress or poplar, and pine floors.

Cost, \$1,850; width, 23 feet; depth, including front porch, 39 feet 6 inches; height of first story, 9 feet 5 inches; second story, 8 feet 3 inches.

Design B197

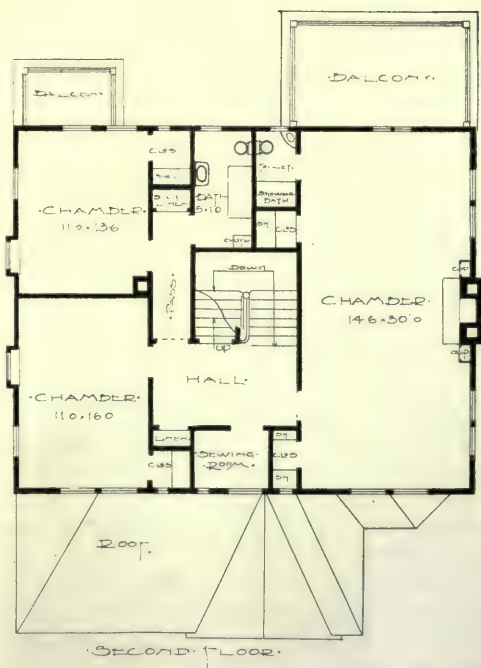
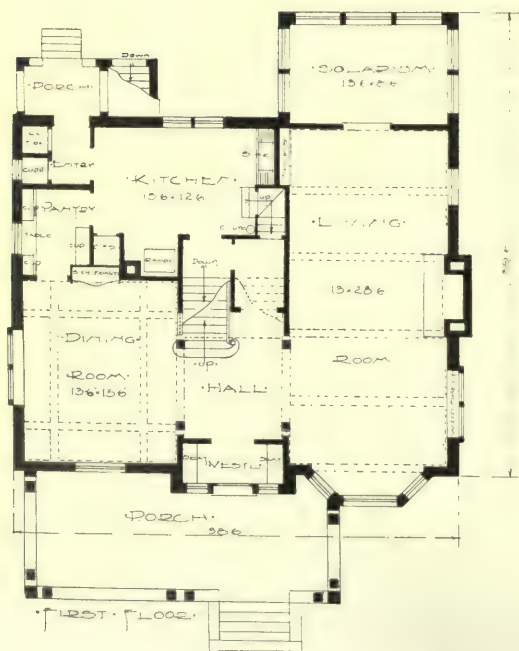
Many prefer a simple, straightforward house, as this is. Its porch is large and the stone piers are very rugged and effective. The arrangement of living-room and dining-room at either side of the staircase hall is a popular one, the columned opening adding much to the beauty of the interior. The living-room fireplace is well located and the library adjacent is a very pleasant room. There is a large coat closet in the hall and the pantry is located between the dining-room and kitchen. A good feature is the kitchen entrance under main stair, with refrigerator space, toilet and stair to basement, which contains laundry and hot water heating plant. The second floor contains three bedrooms, a child's room, dressing-room and bath-room finished in white enamel with birch floors. First story finished in birch. Attic contains ample storage space. Size 33 ft. by 30 ft. exclusive of projections. Basement 7 ft. 6 in. high, first story 9 ft., second story, 8 ft. 6 in. The cost is estimated at \$3,000.



S. J. BOWLER, Architect

In Picturesque Half-Timber Style

DESIGN B 191

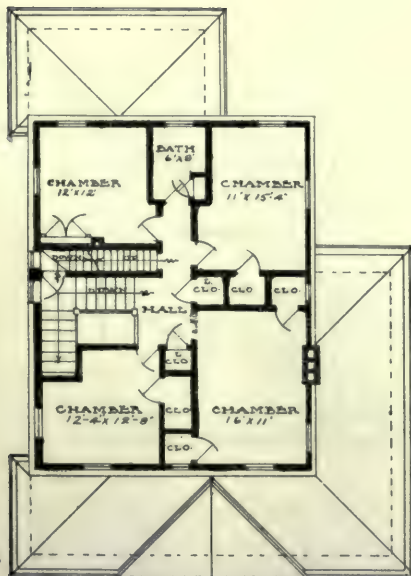




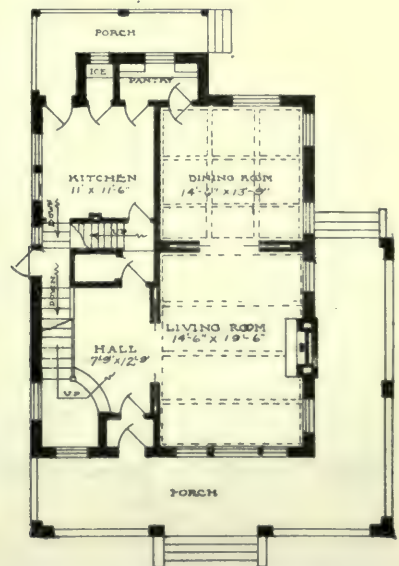
F. E. COLBY, Architect

A House of Wide Porches

DESIGN B 192



SECOND FLOOR PLAN



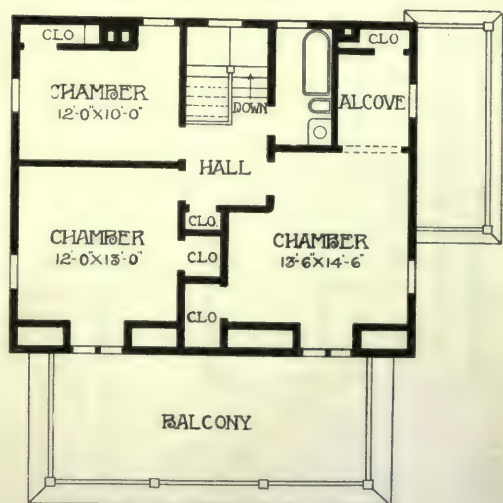
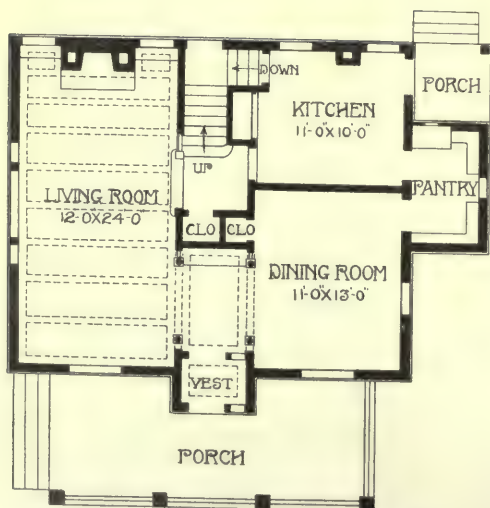
FIRST FLOOR PLAN



CHAS. S. SEDGWICK, Architect

Cement Blocks and Gambrel Roof

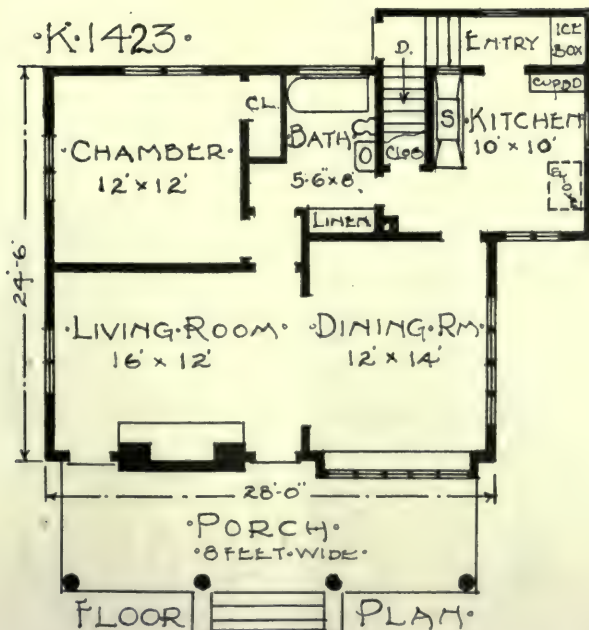
DESIGN B 193





A Small Picturesque Bungalow

DESIGN B 194

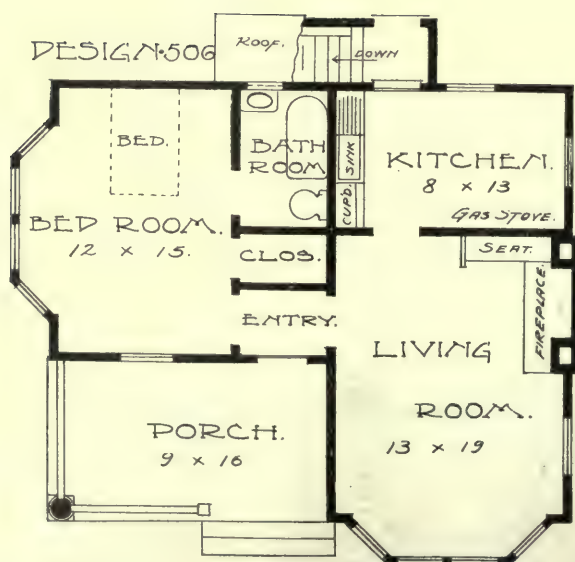




ARTHUR C. CLAUSEN, Architect

A Simple Little Bungalow

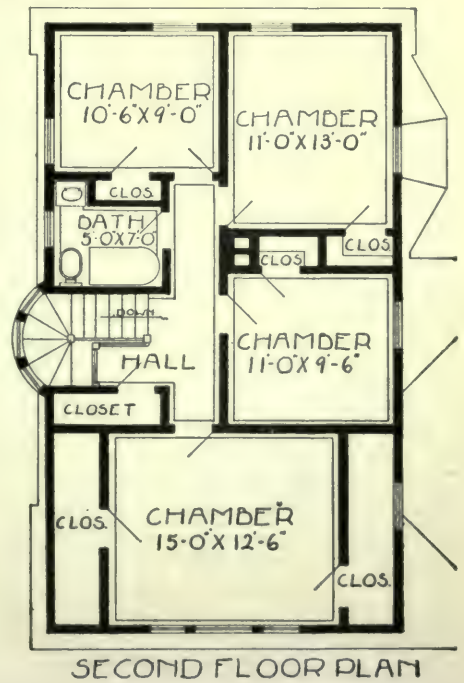
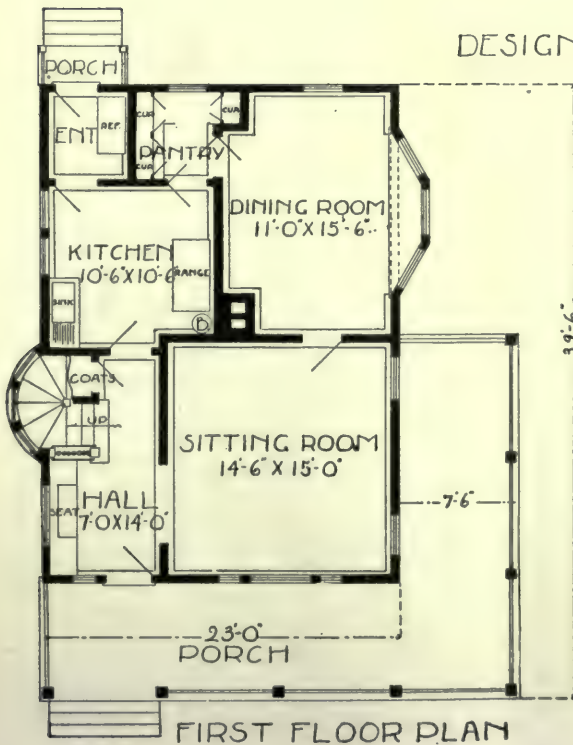
DESIGN B 195





Effective Gambrel Roof Design

DESIGN B 196

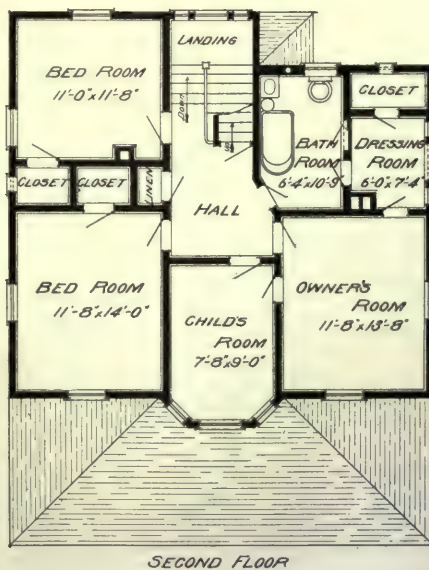
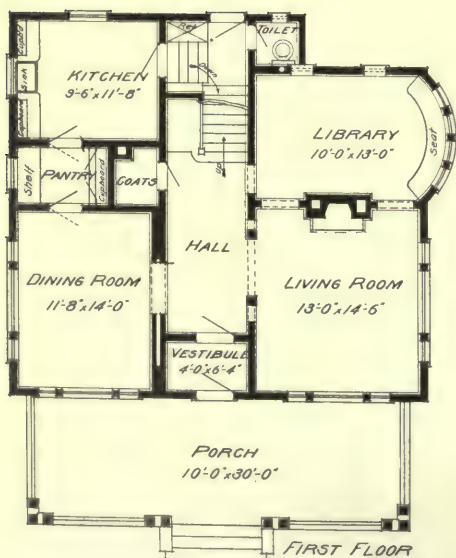




A. M. WORTHINGTON, Architect

A Simple, Straightforward House

DESIGN B 197



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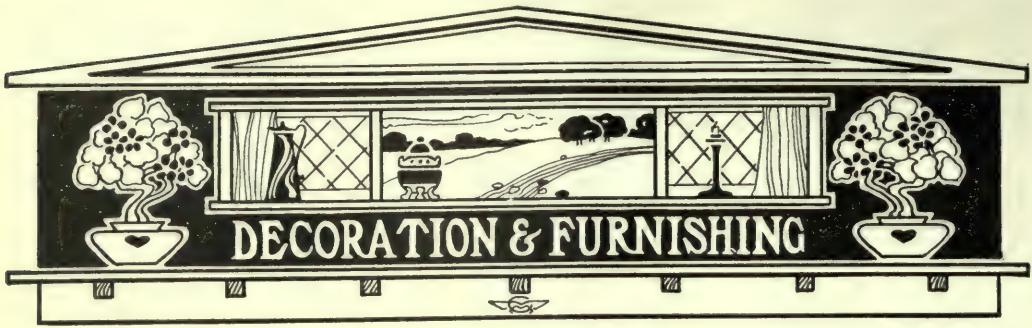
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WHEN one has a variety of rare and beautiful objects, fine furniture, good pictures or ornaments, the rooms in which they are placed must be considered more or less as backgrounds. The decoration must be either in so low a key as not to kill the contents of the room, or else be specially adapted to their display. We have all of us seen the room in which the delicate beauty of watercolors is entirely eclipsed by heavy, bright colored upholstery. One sees continually living-rooms or libraries so overcrowded with furniture that it is almost impossible to see the outlines of individual pieces. And what shall be said of a dining-room that displays, by actual count, nearly three hundred pieces of porcelain, silver and glass?

The Value of a Low Key of Color.

The most practicable thing for the average house, where the expense of re-decoration must be considered, is a color scheme in a low key, which will serve as a foil to the more brilliant color of the contents of the room. Of color schemes of this sort, brown is the most universally adaptable, as one or other of its tones can be used in any exposure. Gray, its close second, requires sunshine, and it needs a trained eye to select the tone, as very many grays, beautiful enough in themselves, are impossible for decoration. Any touch of blue or purple is fatal in an artificial light. A gray, very gray, green, is a good background for many things, and is safer in the hands of an amateur. Moreover, there are certain sorts of things which are at their best against a white background.

For Old Mahogany.

It may be argued that old mahogany looks well everywhere and it is quite true, but it has an added charm when it is relieved against a tapestry wall paper, having a verdure effect in low-toned browns and greens. Especially is this true in the case of the heavier sort of furniture. Queen Anne and Georgian, Chippendale, Adam and Sheraton accord well with striped, two-toned papers and white woodwork.

Flemish and Louis Treize.

There are two sorts of verdure tapestry, Flemish and Louis Treize, the design of the same general character, the two styles differing in the tone of green employed. In the Flemish tapestry, from which many of the tapestry papers are copied, the greens are distinctly bluish, while the French colorings are russet and olive.

Of the two the latter are better with mahogany, while the Flemish colorings accord admirably with oak furniture, Flanders, Tudor, or Jacobean. In papers of this sort the design is so well balanced that the various colors employed blend in a harmonious whole which is a good background for pictures, oil paintings, or brown-toned photographs, or even prints if framed without too much margin. Mirrors and sconces, brass or gilt, are at home in this environment, also large pieces of Oriental porcelain. Distinctly modern pottery and plaster casts, however harmonious in the abstract, strike rather a false note. Decorative consistency is a jewel, but it demands sacrifices.

Marquetry comes the way of the average person so seldom that it is a neg-

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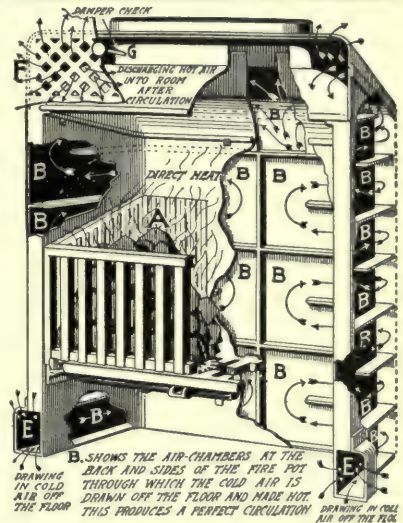
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DECORATION AND FURNISHINGS—Continued

ligible quantity, but as there is a certain amount of it lurking about the country, not in the hands of the collectors, it may be interesting to give the dictum of a distinguished English decorator to the effect that it demands turquoise blue as its proper setting. In the morning-room of the House Palatial, reproductions of Sheraton inlaid furniture were shown against a background of two-toned rose red.

A Den in Blue.

As an example of what may be done in making a special setting, a den done in a fast old blue was of interest. The woodwork was cherry, the furniture, desk, couch, tables and chairs, old mahogany of a light tone, not specially choice, but of good design. A shelf, matching the rest of the woodwork, six inches wide, ran around the room four feet from the floor. The space below this was covered with an English paper in a closely covered design in low tones of green and old blue. On this shelf were irregularly arranged books and a few plaster casts, brass trays and candlesticks. The wall space between this shelf and the ceiling was covered with an imported cartridge paper in a soft old blue, exactly matching the predominant blue of the dado. This part of the wall was almost covered with unframed watercolor sketches pinned to its surface. An old blue linen couch cover and blue and white madras curtains repeated the color note.

In the same house the living-room had the fireplace in an oak panelled alcove, the shelves above the mantel supporting a number of interesting pieces of blue Staffordshire. The seats of this ingle nook were cushioned in a low-toned olive mohair, the same material being used for the upholstery of chairs and couches.

In the main part of the room the walls were covered with sage green cartridge paper serving as a background for many watercolors of North African and Mediterranean scenes, whose dominant color note was blue. They were framed without margins in narrow black frames. The Donegal rug was blue, the furniture, some of it upholstered, the rest brown oak in colonial models, with a gate-legged table in the center of the room. Curtains of net under others of

a blue and green cretonne, many pillows covered with the same cretonne, table covers of blue linen embroidered in green and some effective pieces of green pottery completed a most satisfactory room. An adjoining room furnished in mahogany repeated the green of the larger room in wall paper, rug and leather chair seats.

In the hall, connecting with both rooms, but with a northern exposure, the mahogany stained woodwork was agreeably contrasted with a crepe paper of warm golden brown. The walls were hung with a few family portraits, interesting from a purely personal point of view, definite color being supplied by a rich-hued Oriental rug.

For the Nursery Walls.

A quaint decoration for the walls of the nursery is made with panels of grass cloth. The wall is first papered to the ceiling line with a floral paper, a specially pretty one having stripes of hollyhocks on a white ground. Yard square panels are cut from gray green Japanese grass cloth and pasted to the walls, at irregular intervals, about a foot above the subbase, and surrounded with a narrow wooden moulding. These panels serve as a background for groups of figures and animals, cut from illustrated children's books. One panel may represent a farm yard, another children at play, and so on. The finished panel may be covered with a coat of varnish.

Another decoration is made with one of the quaint English nursery papers for a four foot dado, the wall above it being painted in a warm tint harmonizing with the paper, a narrow shelf separating the two parts of the wall. A warm buff will be found satisfactory with most of the nursery papers. The lower part of the wall should be varnished. The plain wall is a good background for some of the many charming pictures of child life, and the shelf will hold books and the treasures of the older children.

Bamboo furniture is a good investment for the nursery. The tabourets are just the right height for tables, the utility boxes are good receptacles for toys, and the chairs can be easily cut down to fit short legs.



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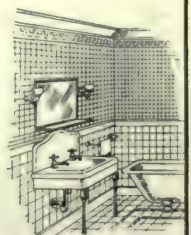
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DECORATION AND FURNISHING—Continued

Colonial Glass.

The scope of colonial glassware is constantly enlarged. Not only are there numberless delightful things for the table, but there is a great variety of lamps and candlesticks, even candelabra. Where silver is out of the question, these latter are very satisfactory and in excellent taste. They need colored candles and shades, as their effect is rather glacial with white ones.

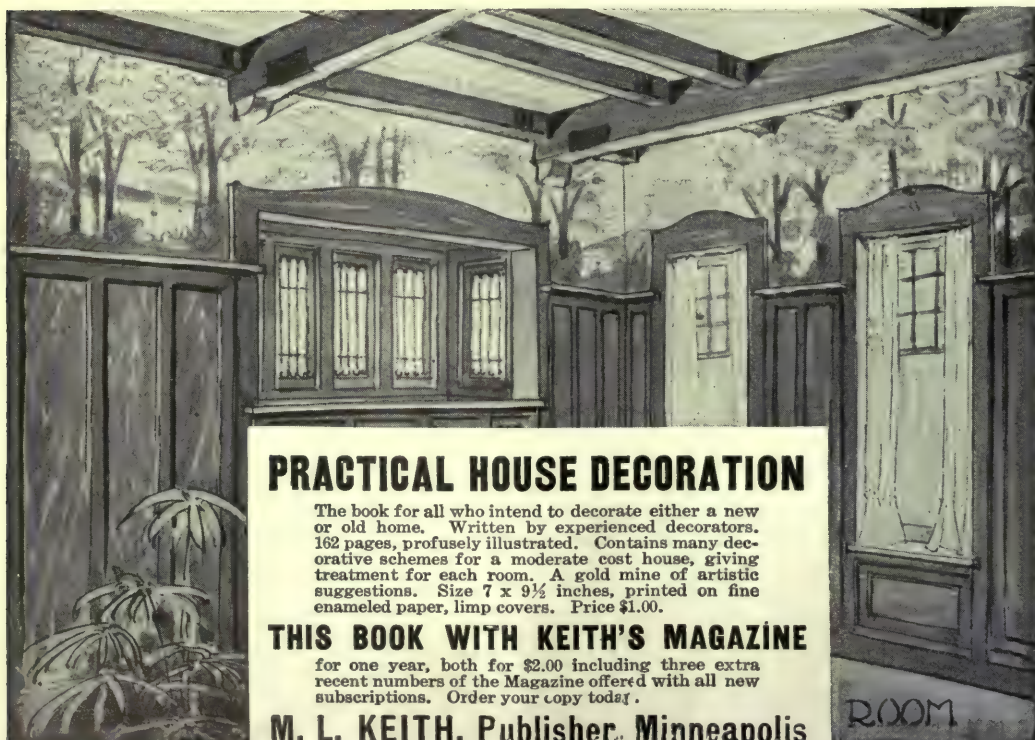
A pair of the single candlesticks is effective for a dressing table, with pink or yellow shades, or one may use the bayberry candles with a shade of silver filigree over the faintest yellow silk. Then there are tall lamps, standing nearly two feet from the table, of delightfully clear glass, in the simple fluting of old cut glass. They cost from \$4.50 to \$7.50, without the shade. They show them in the stores with white lace shades edged with crystal bead fringe, but the lamps look much better with an addition of color.

An effective shade for one of these

lamps is made over a wire frame with six sides. It is first covered plainly with white net. A spray of flowers cut from cretonne is applied to each panel, or a trail of flowers and foliage may be carried around the entire shade. The sections are outlined with a silver braid and the top bound with it. A full frill of net or lace finishes the bottom.

A simpler shade is made on a circular frame, covered with flowered silkoline, then with net, edged with a very narrow white or pink silk fringe, the sort called Tom Thumb. The Empire shades of Whatman paper, delicately painted, are also adapted to these glass lamps.

The newest thing in glass is a wash-bowl and pitcher. It is specially designed for country houses, but would look equally well for the spare bedroom in the city. As yet it is not possible to get soap dishes and brush holders, but substitutes can be found by searching the stocks of small table wares. Finger bowls and flower holders may have other than their conventional uses. It is quite possible to equip a bedroom entirely in glass.



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ANSWERS TO QUESTIONS ON INTERIOR DECORATION

Editor's Note.—The courtesies of our Correspondence Department are extended to all readers of *Keith's Magazine*. Inquiries pertaining to the decoration and furnishing of the home will be given the attention of an expert.

Letters intended for answer in this column should be addressed to Decoration and Furnishing Department, and be accompanied by a diagram of floor plan. Letters enclosing return postage will be answered by mail. Such replies as are of general interest will be published in these columns.

J. P. W.—We have moved into our new home. Interior finished in yellow pine with the exception of two mantels, which are oak in each chamber, one dark, with brown tile, the other a shade lighter, with pink, red and white mottled tile. You will oblige me if you will help to decide about the furniture, rugs and portieres. The inside window blinds or shades are a dark green. I would like the walls in dining room painted a wine color, the kitchen walls the color of a green grape and the living room in brown or tan, with brown, tan and red in the rug or carpet. Can I get portieres that are red on one side and green on the other.

It seems the furniture should be light willow and light-colored wood for dining-room and living-room since the wood is yellow pine.

I have a cupboard in the southwest corner of the dining-room that has doors to open from kitchen and dining room. Where can I find inexpensive portieres for the opening between dining-room, living-room and hall.

The floors are pine. Can I have them stained to imitate hardwood floors? I will put linoleum on kitchen floor.

I would so much rather have the mantels the same color as the woodwork (yellow pine), if they could be painted or stained. We made a mistake in not getting the brick mantels.

The large window on the north in front chamber does not leave space for a bed. Could I use a bed-davenport. What would you suggest?

I thought of net curtains for windows.

We have an east front with about one acre for lawn.

Ans. J. P. W.—In reply to your recent letter asking for suggestions on decoration, wish to say that the oak mantels in the bedrooms are rather a pity, but all

brick would not be the proper choice for bedroom mantels. You can do one of two things, now—either remove the varnish from the yellow pine, which is easily done with a good paint remover, and stain the woodwork to the color of the mantels. Or, you can paint the woodwork white, treating the mantel as a part of the furniture.

Dark red walls in a south dining-room, especially in your climate, would not seem a good choice. Both living and dining-rooms should have a cooler wall treatment than the colors suggested, especially with yellow pine woodwork. The ideal color tones for these rooms are dull greens and blues, making the green predominate in the living-room and green and blue mixed, in dining-room. It would then be easy to get a portiere which would harmonize with both rooms. There are velour portieres which are red on one side and green on the other, but they are heavy and expensive, costing \$40.00 a pair. They are not now much used and would not be in harmony with yellow pine woodwork. There is an inexpensive but good hanging called Chateau cloth, 50 inches wide, at \$1.50 a yard, coming in all shades of color, which would be appropriate. A soft ecru could be used on the walls of the living room, having one large rug made of plain green Wilton Moresque carpet, \$1.85 a yard, which has an effect of green moss. The furniture coverings green and the door hangings. In the dining-room, a mixed blue and green rug, dull old blue on the wall with pale blue-green ceiling. Your rooms would then be in harmony and agreeable. A bed-davenport is a miserable makeshift. Why not place the bed cornerwise in the northeast corner?

J. B.—Please give me your advice on the following scheme for decorating the hall, large living-room and dining-room of a seven-room, two-story house. The



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ANSWERS TO QUESTIONS—Continued

furniture in the three rooms named will be waxed oak, with a few other odd pieces, the woodwork will be oak, and my plan is to have rough plaster, all three rooms in blues—but different shades. I don't know just where the lighter shades ought to be, and just one tone would be tiresome I think. How will this be, with the oak? What shade of brick would be best with this color scheme, for the fireplace? Do they put borders on these plain colored walls? Will the blues be a good background for pictures?

We had thought that the rough plaster would be cheaper than paper and also save the possibility of having the walls spoiled by settling and cracking the paper. How is the color put in, and how many coats? How do they tint bedrooms?

Ans. J. B.—In reply to your recent letter, will say that it is a mistake to suppose that walls left in the rough plaster will not show cracks. If the house settles, such cracks will look worse than with papered walls, because the paper can be renewed. In regard to the color scheme in blues suggested—great discretion must be used or it will be very unpleasant. It would be possible to run a scheme of blue tones through the rooms mentioned by using a four foot wainscot of oak in the hall and a very rich, deep blue above it, with a stencil decoration at the top of the wainscot, in dull greens. Such decorations, or "borders" as you term them, are used and when well done, are in good taste.

It would then be much better to tint the plaster of living-room a warm grey, with grey brick fireplace and to introduce the blue coloring in the rug, draperies and furnishings. The dining-room could have plaster panels, forming a 3 ft. dado; these panels done in flat-tone glaze colors, blending two deep shades of blue; the walls should be again broken by a plate rail at the top of the doors and the space between tinted a soft old blue. If a stencil decoration of dark blue grapes and green leaves were used on this background, it would give the necessary relief.

Only certain dull yellows and greens or terra-cottas can be mixed with the

plaster itself and such work must be done by a practised hand. It is advised to send to manufacturers of wall tints for their color card. This will give you full directions for applying and show the tints.

L. J. S.—I am about to repair and decorate my offices. There is a high wood wainscoting, and a matched wooden ceiling. All the woodwork is soft wood and painted. The walls are plastered and papered. The floors are soft wood and will have to be painted. The hallway from the street and the stairs are rather dark and I want as light decoration as possible.

My office furniture is all "golden oak." What color paint and what kind of paper would you suggest, or would some other treatment be better for the walls than paper? They are plastered and are quite smooth.

Ans. L. J. S.—In reply to letter for suggestions on decorating offices, desire to say, that in regard to the use of paper on the walls—since they are already papered it would be the least expensive finish. It is, however, the least desirable. You can do one of three things. You can strip the old paper from the walls, size them and paint two coats. Flat-tone colors specially adapted for the work, are recommended. Or, you can use some of the burlap art coverings. Or, you can put on a paper stamped in imitation of leather. These would not vary greatly in the cost. The burlap would be the most economical, easiest and most satisfactory. The board ceiling should have heavy muslin or canvas stretched over it and be either tinted or painted.

In regard to colors, since the wainscot must be painted, it would be well to do it in a rich olive green with the floors a very dark water green. The wall above in a soft ecru burlap with ceiling tinted a lighter shade. Your golden oak furniture will look better in this setting than against a brown painted wainscot. If the hall and stairway are separated from the offices, you can use a flat-tone coconut brown on the wainscot and stair, with old gold on wall and cream on the ceiling. This will lighten up the stairway. You can, of course, put any expense you choose in the way of stencil decorations on your office walls, but we should keep them plain.

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A Thanksgiving Sermon.



WICE in the year it is the privilege of the writer of these pages to preach, and she takes up her parable with a plea for a view of the Thanksgiving festival which shall extend beyond the immediate family circle, embracing, if not the stranger within the gates, at least someone less fortunately placed than ourselves. Any spiritual emotion is valuable only as it is translated into action of some sort, and our gratitude for all the good things which have come to us is only real when it assumes a tangible form, finding expression in service to others.

It is an easy thing to send a dinner to the washerwoman, although it not infrequently happens that her idea of good cheer is somewhat different from our own. It is less easy to make the day a happy one for the needy gentlewoman. No problem of social service is harder to solve than this, of helping without wounding the pride, which is the last bulwark of the gently bred. Yet every community has its share of those who have, by no fault of their own, seen the good gifts of life slip from their grasp.

Manifestly the dole of a dinner is not for such as these. Intimate personal friendship may sometimes, not often, make a gift of money possible. But it is one of the hardest things about the loss of fortune and position that it sets up a barrier between the most intimate friends. Given the disparity, where there has been equality and there is an insensible weakening of the ties which depend upon a community of interest. Often

the kindest thought must take refuge in anonymity. But there are ways and ways of giving pleasure without the personal touch which, in cases like these, means suffering which more than balances the pleasure. And there is this about the anonymous gift that it fulfils very exactly the scriptural direction as to the right and left hand, and is quite free from the commercial tone which disfigures so much of our generosity.

The Economy of the Check Book.

Given the housekeeping allowance, a bank account is a great economy. Everyone knows that the small spendings are the thing that runs away with one's income, the host of unconsidered trifles which one buys, because they seem to cost so little, but whose total mounts up alarmingly. It is so easy to spend five cents here, a quarter there, a dollar somewhere else, without thinking of the aggregate of all these small expenditures. But, once accustomed to payment by check, instead of with ready money, and the small spendings become difficult. One has, it is true, the sensation of being "strapped," but, on the whole, it is a salutary one, and after a time it is replaced by the unusual one of unforeseen affluence. There is a subtle joy in balancing one's bankbook, or adding up one's stubs and discovering a substantial sum to the good. And, as time goes on, the habit of indiscriminate spending, small or great, is replaced by that of giving careful consideration to the drawing of a check, of leaving the smallest possible margin for the sort of spending which is apt to be entered in housekeeping books under the convenient head of "sundries."

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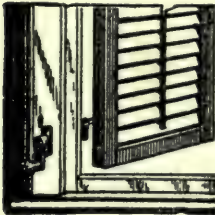
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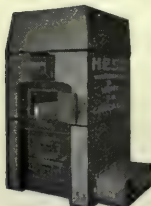
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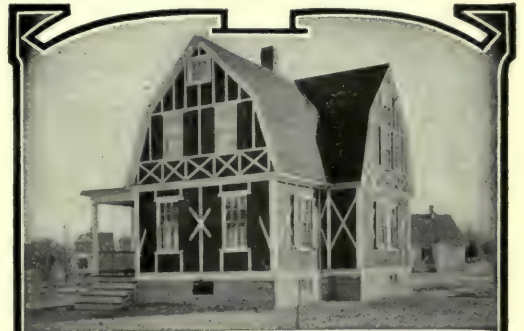
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HOUSEHOLD ECONOMICS—Continued

To be sure there is a reverse side. It is possible to acquire a niggardly habit which is anything but desirable, to devote altogether too much time and attention to saving, but the people who are likely to do this are not these who need the discipline of the check book, and could be trusted with absolutely unlimited small change.

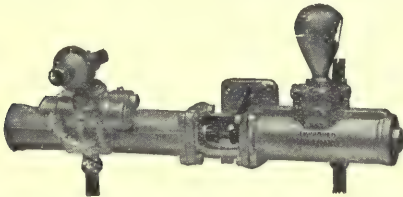
An Economic Contrast.

During the past summer it happened to the writer to stay in two houses, one presided over by a woman who had been trained in a school of domestic economy, the other having for its head a wholly untrained woman. The contrast was an instructive one. As the latter house was devoted to "paying guests" it is quite permissible to extract the moral of the difference. Perhaps the best way to do it is to recount the disposition made of a not too youthful chicken, weighing about three pounds and a half, in the two houses. The untrained woman dressed and trussed it at ten o'clock for the one

o'clock Sunday dinner, boiling it rapidly for three hours. It was carved on the table with difficulty, and more difficulty attended its eating, a large portion of it adhering to the bones and being wholly wasted. What happened to the water in which it was cooked no one knew, least of all the mistress of the house, but no portion of it apparently survived the first serving.

The other chicken's adventures began with Saturday morning when it was stuffed almost to bursting with a highly seasoned dressing. Later it was cooked for hours on the side of the range, the water being at no time allowed to get beyond the simmering point. After six hours of this slow cooking it was absolutely tender and was allowed to cool in the water until morning, when it was taken out and thoroughly chilled in the refrigerator.

Before serving the chicken was carved in the kitchen with a very sharp knife into shapely slices, the dressing being taken out in a mass and also sliced. Two days later the remains emerged from the refrigerator to be cut into dice, heated in a sauce made from the liquor in which it had been cooked with an addition of curry powder, and served in a ring of boiled rice. On Wednesday the rest of the liquor was made into a cream soup, preceding an omelette served with potatoes fried in the fat which had accumulated on the surface of the pot when the chicken was cooled. It adds point to the contrast that the number of people to be served was the same in both instances.



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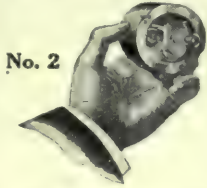
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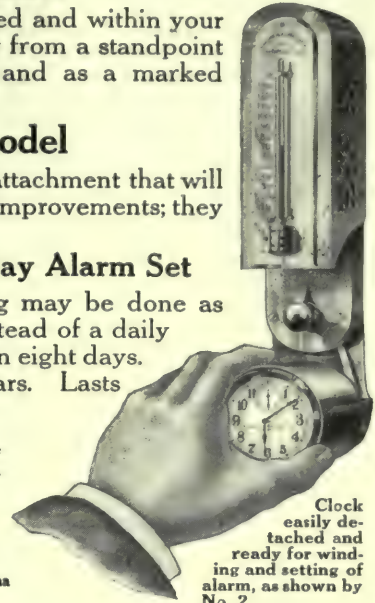
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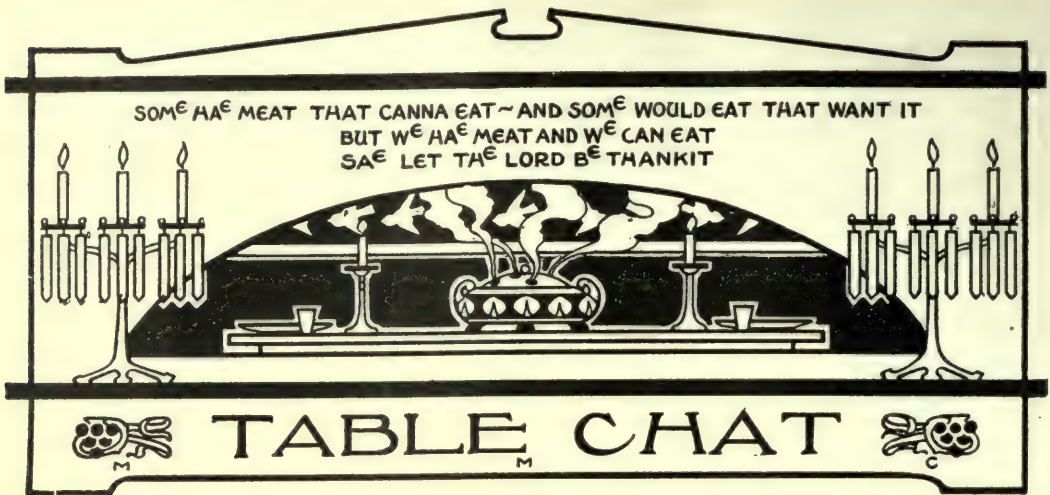
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The Thanksgiving Supper.



WHILE the Thanksgiving dinner is for the family, the Thanksgiving supper is for one's friends. Indeed in many communities the football game cuts the dinner rather short. The young people are off promptly and the elders are left to their reminiscences. The Thanksgiving supper affords a chance for the display of the bare table and one's daintiest doilies, and the table never looks so well as when its polish reflects the gleam of artificial light.

It is a pleasing touch to have flowers in the color of the college which has the suffrages of the young people, bouquets for the girls, boutonnières for the men, as well as the centrepiece, and to repeat the color in candles and candle shades. A further decoration may be of tiny silk flags in groups of four or six, their sticks sunk in small saucers of paraffine, covered with ferns.

The Menu.

After hours of out-of-doors, in crisp autumn air, appetites must needs be keen, and the supper itself should be substantial, and at least part of it should be hot. It may begin with bouillon, a rich bouillon, piping hot, with bread and butter sandwiches. Follow this course with a hot entrée, lobster or oysters, a la Newburg, creamed sweetbreads or fish.

For the principal dish nothing is better than a chicken pie, of generous size,

served cold, made with a rich crust, its centre a mass of tender chicken, hard boiled eggs and mushrooms or oysters, embedded in jelly.

Follow the pie with a simple salad, plain lettuce, jardiniere, or celery and apple, with a French dressing, and cheese, and finish up with ice cream and cake, preferably a layer cake of some sort. As the guests are youthful they will probably like chocolate with whipped cream better than coffee. But whether the viands be simple or elaborate, let them be plentiful, as youth thinks more of quantity than quality.

A Cup of Chocolate.

The perfect cup of chocolate is made from the bitter chocolate used by confectioners, usually to be had of the baker, as a favor to a customer. Two ounces to a quart of milk is a fair proportion, the chocolate melted over the teakettle, or in a double boiler, the milk stirred into it by degrees. Boil the mixture five minutes, add a flavoring of vanilla and beat it with a whisk until it is foaming. Do not sweeten it before serving, as some people prefer it without sugar. Pass the sugar and a bowl of whipped cream with it.

This is chocolate de luxe. A fair substitute, and a more digestible one is made with cocoa, allowing two teaspoonsful to a cup of milk. Or the cocoa can be cooked in water and unsweetened condensed milk added. An unusual flavor is given to cocoa by the addition of a



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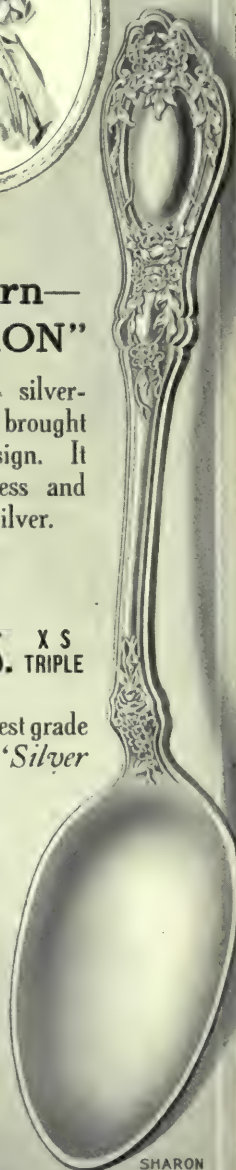
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TABLE CHAT—Continued

little cinnamon. Still another modification is the addition of a cup of strong coffee to the quart of cocoa.

As chocolate or cocoa must always be poured out from the saucepan into the pot in which it is served, the usual objection to a metal pot does not apply. A silver or plated chocolate pot is an admirable asset, with a silver basket for sugar, a bowl for whipped cream, and porcelain cups. If you have no regular chocolate spoons, small, old fashioned silver teaspoons are very nice, better than any but a very long handled coffee spoon. These same spoons are the proper thing for the small cups used for afternoon tea. It is a pretty idea to embroider a cover for the tray used in serving chocolate with the design, or at least the coloring of the cups, but for real service a lace cover is more satisfactory as chocolate makes a stain very hard to remove.

Lemonade Sets.

Handsome lemonade sets come in crystal and silver deposit. The tall glasses are encrusted with the silver and the pitcher matches them. The glasses are thirty-six dollars a dozen, the pitcher eight dollars and twenty-five cents. Lemonade spoons are nine dollars and a half in solid silver, made with hollow handles to serve the purpose of a straw.

Sugar Baskets and Trays.

The silversmith makes a distinction between cut sugar and domino sugar. The present fashion is for plainly finished silver with a pierced ornamentation. For cut sugar the proper thing is

a silver basket, while the tiny slabs of sugar are arranged in a flat silver tray. Sandwich plates have a porcelain centre to be hidden by a doily, and an edge of pierced silver.

A Use for Goblets.

Almost everyone has tucked away some of the tall goblets which were used so much for water twenty-five or thirty years ago. If they are of fluted glass in colonial style so much the better. Bring them out and use them for serving ices, custard, or chilled or frozen fruit, in short, for any purpose for which you would use a sherbet glass. In serving set the goblet on a plain glass plate with a doily of lace or drawn work.

For a Children's Party.

One must always provide for a catastrophe at a child's party, and it is well not to bring out one's choicest linens and laces. An effective decoration to be used on a bare table is made from a large flowered cretonne, one with a closely covered design. Centrepiece and plate doilies are cut from the cretonne, the edges turned in and pressed flat, and a single large flower answers for a tumbler doily. A more elaborate effect can be had by cutting out flowers and sprays of foliage and pasting them as a border around centres of plain linen or net. The cost is almost nothing and the effect extremely gay. A specially good cretonne for the purpose is in the poinsetta design, and can be had in many colorings. If the scarlet is chosen it can be matched in paper napkins.

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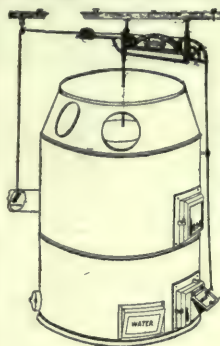


NORTH AMERICAN CONSTRUCTION CO.
BAY CITY, MICH.



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—just as an engine requires a governor. The **KEES REGULATOR** opens and closes the drafts automatically —controls the fire and keeps the heat even without your watching the thermometer or working the drafts. The



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makes waste of coal impossible and prevents injury to the furnace through sudden heating and cooling.

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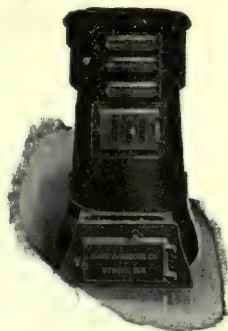
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Made of Ornamental Brick **\$12** and UP

Last longest—look best—are not too costly. There's no other kind so good—so pleasing. Our Sketch Book tells all about them.

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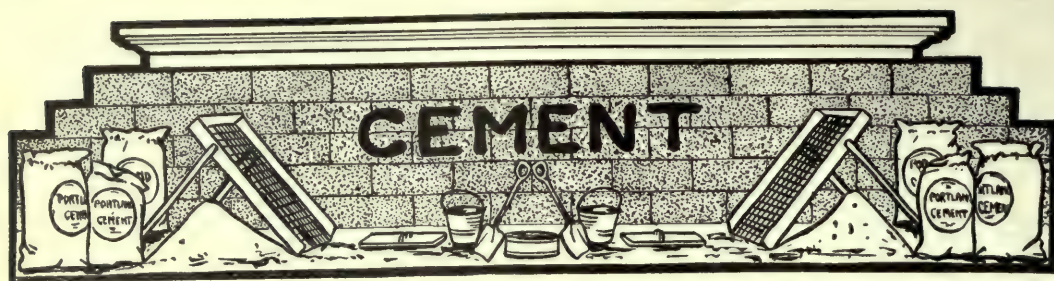
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W. J. OSTENDORF, 2923 N. Broad St. Philadelphia, Pa.



A Rustic Chair of Concrete.

This curious chair is made of concrete in rustic design giving an effect somewhat like petrified wood. It is moulded by James Paltani of Rockville, Conn.

Concrete as a material for constructing garden furniture is coming into general use.

Model Concrete Cottage.

On of the most interesting exhibits at the coming Cement Show to be held in Madison Square Garden, New York City, from December 14 to 20, 1910, will be the model concrete cottage which was awarded the first gold medal in a competition for designing sanitary, inexpensive, working men's homes, held at the late National Congress on the Prevention of Tuberculosis, held last year in the

Natural History Museum in New York City.

The house was designed by Architect Milton Dana Morrill of Washington, D. C., and it created much public interest at the time. The house is of reinforced concrete throughout and is a two-story, five-room cottage. A number of homes of this type are being built at Virginia Highlands, a new suburb of Washington, D. C. Here all the houses are to be of the poured cement type and the gardens, public parks and playgrounds are all decorated with cement furniture and equipment and all are cast in new style steel molds, bringing these model homes well within the reach of the wage-earner. According to the specifications the walls are eight inches in thickness and the floors are four and one-half inch reinforced slabs. One carload of Portland cement is sufficient for the construction.

Every room has windows on at least two sides, thus giving ample light and ventilation. The windows are of the casement type, swinging out, with no trim. While the house is of a plain box-like appearance, much has been done to enhance its beauty by the use of window boxes, flowers and vines and a little exterior decoration in ornamental concrete. The house is so built that it may be thoroughly cleaned with a hose, the cement floors being graded to plugged spouts to discharge on the lawn. There are absolutely no places inside the house for the shelter of dust, vermin or insects.

It is expected that much public interest will be centered on this exhibit at the New York Cement Show in December as it excellently demonstrates the possibilities of reinforced concrete construction in the building of inexpensive homes.



Asbestos "Century" Shingle Roof—Offices and Printing Plant of *Amerika Echo* Newspaper, Toledo, Ohio; John Matz, Toledo, Architect; Hoffman & Harpst, Roofing Contractors

Asbestos "Century" Shingles

"The Roof that Outlives the Building"

WHEN you realize what a large proportion of all fires start on the roof, a *truly* fireproof roofing becomes a good bit more important than it seems at first sight.

Asbestos "Century" Shingles are the first absolutely fireproof roofing in the history of the building trade. They are made of reinforced concrete—hydraulic cement reinforced with interlacing asbestos fibres—compacted by tremendous pressure.

And what is more—they are light in weight and can be laid so that they hold up even when the roof frame is weakened by fire within the building.

Asbestos "Century" Shingles are indestructible by weather and time. Cannot rust, rot or warp. They grow harder and tougher with exposure to weather—literally *outlive the building without repairs or painting*.

Yet the first cost of Asbestos "Century" Shingles is no greater than you would expect to pay for a first-class roofing.

You can get Asbestos "Century" Shingles in three colors—Newport Gray (silver gray), Slate (blue black) and Indian Red—in numerous shapes and sizes. Ask your responsible roofer about Asbestos "Century" Shingles. Write for our illustrated Booklet, "Reinforced 1910"—full of valuable pointers to a man with a building to be roofed.

The Keasbey & Mattison Company

Factors

AMBLER, PENNSYLVANIA

CEMENT—Continued

Method of Determining Voids In Sand And Broken Stone.

A very simple and accurate method employed by the Aberthaw Construction Co., Boston, Mass., for determining the voids in sand and broken stone for concrete work is as follows:

Apparatus necessary—a galvanized iron ash can and platform scales that will weigh up to at least 500 pounds.

Weigh can empty and indicate weight by W.

Weigh can filled with water and indicate weight by W2.

Weigh can filled with stone and indicate weight by W3.

Weigh can filled with stone and water and indicate weight by W4.

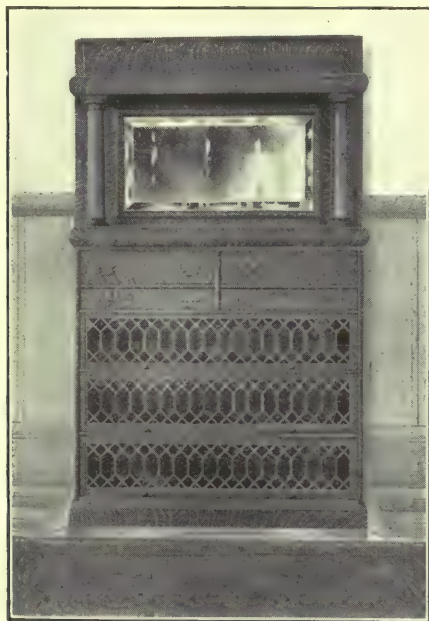
Subtract W from W2 and divide by 62.4 to find the number of cubic feet in the can, indicate by C. Subtract W3 from W4 to find the number of pounds of water required to fill the voids in the

stone or sand; divide by 62.4 to reduce to cubic feet and indicate by V.

Then C divided by V will give the percentage of voids in the stone or sand.

"Cameo" Cement.

Leon Mazy, a Los Angeles decorator of European training, has discovered a new process for the embellishment of concrete buildings by which the displeasing effect of the natural gray cement surface is eliminated. This "cameo" cement, as he calls his invention, for which patents are pending, can be used either as an interior or exterior decoration for columns, stairways, chimneys and friezes. It can be incorporated in the concrete as the building progresses or it can be applied in the form of tiles after the building is completed. Any figure or form can readily be translated and any portion of a design can be individually colored, the range in colors being complete, from the lightest tones to the darkest hues. Any design may be treated flat, raised or engraved, and being cement and as mineral colors only are employed, may be said to be practically everlasting.



Patent applied for.

Where there is no fireplace a fitment like this, combining

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with bookcase or sideboard, adds beauty to the room. Wood Mantel suggestions for every apartment in our booklet, "WHY WOOD MANTELS?" free on request to

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is the mantel

If the mantel is well selected, in harmony with the rest of the room—the whole will be an artistic success.

And if the mantel is well built - of good materials—by capable workman, it will be a source of lifetime satisfaction.

We have designed and built VOSS Mantels for twenty-five years. Our timber buyers are experts our cabinet

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to the designing of exclusive mantels in all woods and finishes.

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Use this G. R. P. quality brand of plaster over any good plaster board and you will have a sound, as well as a fire-proof wall without lath stains or other objections.

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A "Comforter" that Will Keep the Whole Family Warm

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Sample and catalogue free on request.

SAMUEL CABOT (Inc.)

141 Milk Street, Boston, Mass.

AGENTS AT ALL CENTRAL POINTS.

CEMENT—Continued

Testing Cement.

A correspondent inquires how the quality of cement may be ascertained and wants to know if that which is too old for use can be detected by sight.

Answering your inquiry of the 14th, the difference between fresh and old cement cannot be detected by any difference in color. If cement has been held in the warehouse any length of time, it is liable to have become caked and lumpy. This does not injure its quality as the lumps, unless set from dampness, can be easily broken up. The chief difference is that fresh cement will set up quicker than old cement. Old cement should do as good work with the exception that it takes longer to set.

We are using constantly all kinds in work around the mill and have yet to find any difference in the two outside of this one item.

There is no sure test of this, except by making the regular test briquettes and breaking them according to the standard issued by the American Society for testing material. A rough gauge for testing the condition of cement is to see if it is lumpy, and if these lumps are hard and are not easily broken up by dumping the bag on the platform and striking the lumps with a shovel, it shows that the cement has been kept in a damp place and part of it has set. It is still good if these lumps are screened out with a fairly fine screen. Would suggest that your correspondent make up samples of concrete using the cement which he has and also part of cement which he knows to be fresh and if he makes it up into 12-inch cubes and breaks them with a hammer he can tell whether the cement will make concrete good enough for most ordinary purposes.

Concrete.

Concrete is more than structural engineering material. It is not limited and inert like steel, tile, brick and stone. Structural concrete is potent in wonderful possibility, a great socializing agent. It means for all the people, pure water, clean streets, good sewerage systems, unburnable school house floors, safe bridges, hygienic houses and infinite hydraulic power development.

The Bond of Mortar on Clay and Concrete Brick.

In connection with the use of concrete brick in the construction of its new mill, the Plymouth Cordage Co., North Plymouth, Mass., made many interesting comparisons between brick made of clay and those of concrete. Bond was recognized as an essential feature in any method of construction, and in this respect concrete brick appear to have the advantage. Clay brick with one pallet side show a better bond than clay brick with both sides perfectly plain. It might be argued that concrete brick with plain bed and build would furnish an inferior bond with the mortar. The fact is, however, that the concrete brick bond perfectly with the mortar, to such a degree that the resulting wall is practically monolithic. Owing to the bond, attempts to make cleanly-cut openings in old work were a failure unless great care was taken first to cut out the joints. If this was not done the wall was defaced. Holes drilled through the wall would split out on the opposite side a space over a foot square, especially when drilled from the inside. If mortar was left on the brick in laying, it was impossible to clean it off with any reasonable amount of water and acid and it could not be scraped off without defacing the wall.

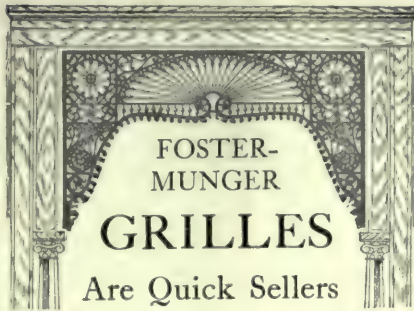
Cutting the concrete brick was found to be one of the most valuable features. It is possible to do almost anything with them. Cuts have been made $\frac{1}{2}$ inch thick, for the full length and width of the brick. A $\frac{1}{4}$ inch strip was cut from the full bed of a brick (except $\frac{1}{2}$ inch from the face) to lay over and hide the edge of a casting. These are things which cannot be done with ordinary clay brick.

Water-tight Forms.

Forms in all cases must be water-tight to prevent the loss by wash of cement by leakage.

Cleaning Forms.

A section which is to be concreted should be cleaned up only a few minutes ahead of the time when the concreting is to commence, in order to avoid the possibility of dirt and shavings collecting there a second time.



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- ¶ All woods selected with special care as to color and grain.
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- ¶ Superior mechanical equipment enables us to produce a greater quantity and still uphold quality.
- ¶ More than a hundred beautiful designs from which to make a selection. Special order designs quickly executed.
- ¶ Our prices are as surprisingly low as the quality is high.
- ¶ Every dealer should have Book 108-J which shows the finest and most complete line of grilles in America; also colonades, stairs, mantels, wood carpet and parquetry flooring. Mailed postpaid upon request. Write for book 108-J and price list today.

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Proportions in columns make or mar the success and artistic effect of the pergola. That is why a pergola built with

KOLL'S PATENT LOCK JOINT COLUMNS

made in classic proportions, will insure your getting a charming and beautiful pergola. They are equally suitable for porches or interior work and are made exclusively by

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The Jackson Ventilating Grate

will make your fireplace a perpetual pleasure. Burns wood, coal or gas. Unlike the ordinary grate it produces an even temperature thruout one or several rooms, and gives four times the heat of the ordinary grate. Its special feature is a fresh air pipe which draws pure air from outdoors and sends it heated into the room, while the impure air passes up the chimney. Perfect ventilation is thus assured.

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Clean Surface for Painting Essential.

IN the repainting of some rooms it has been found that the paint did not dry out as quickly as it should, in fact, there appeared to be a tackiness that could not be gotten rid of. It perhaps was due to greasy conditions which had not been thoroughly cleaned. Paint will not dry over a greasy surface. An employer who instructs a man to clean down the work thoroughly before applying the first coat of paint, cannot be at the workman's elbow all the time to see that this is really done thoroughly. If the paint of a door dries everywhere excepting those portions above the lock, which are marked by the hands, I should have very little hesitancy in saying that the work was not properly cleaned off. In the same way if the seats in a public hall, a church or school, when renovated do not quickly dry, the probability is that they are more or less greasy. It may be well to point out here that the hardening of an oil paint takes place not by evaporation, as is the case with whitewash or distemper, but by the linseed oil absorbing oxygen from the atmosphere. Grease, however, is a great bar to oil paint drying, and a thoroughly clean surface is essential to good work in this respect. As to the cure of paint work which will not dry, if it is due to an excess of driers, there is nothing to be done but to remove the coat of paint and give another; but if it is due to another cause, such as dirt or grease, a cure may be sometimes effected by mixing a little gold size with turpentine, say in the proportion of three of the latter to one of the former, and giving a coat of this over the affected parts. Another cure which is often useful is to mix an earth color, such as ochre or sienna, with water, and give a liberal coat of this without adding any binding material, such as size. This coat

should be left on some days—a week is not too long—and if at the end of that time the work is hard and dry, it will be due to the fact that the “tacky” paint or varnish has been practically absorbed by the ochre or sienna. A final coat of a good hard varnish may then be given, and the work will stand permanently.

Red Lead Paint.

There is very little red lead priming done in this country, on wood, but it makes a good primer. It is said of it that it not only dries of itself, but that it imparts its drying qualities to the coat of paint that is applied upon it. It would seem, therefore, that when we prime with red lead paint, whether on wood or metal, we should put very little japan driers in the paint over it. The addition of some lamp-black to red lead paint retards its too quick setting or drying, and at the same time assists the oil in holding up the heavy red lead. Bridge painters like to add considerable lampblack to the red lead for the finishing coats, for this gives a very pleasing brown shade and holds up the paint in the pot quite a while.

Blistering of Paint.

Priming with yellow ochre will do it. If ochre must be used, then add some white lead to it. The trouble is due to faulty priming in most cases. The prime coat must not be too heavy. The wood should be dry. Sap should be shellacked. The application of one coat before the other is hard-dry is apt to cause blistering. Too heavy coats is bad. Nearly all deep colors will blister, bronze green being very bad.

Painting Redwood.

This wood should not be painted at once, on the exterior, particularly if the wood has been through a high-pressure planer, causing it to have a hard, shiny

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Simple
to
Apply—**



**Simply
Ideal
when
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WOOD Finishing is *not* a complicated problem. It is not hard to understand. It is mostly a matter of judgment. It is for the Home Owner and Builder to exercise judgment in specifying the wood finishes he wants used.

It is for him to decide whether he wants the beautiful grain-markings of his expensive woodwork, clouded and obscured or their beauty developed and magnified by a smooth transparent finish.

BRIDGEPORT STANDARD WOOD FINISHES

emphasize Nature's beautiful markings of the grain. Whether the wood is inexpensive pine or costly oak—ordinary birch or finest mahogany, they will bring out the life of its grain and make the woodwork attractive.

Bridgeport Wood Finishes are ideally simple to apply—and simply ideal when applied. They last longer than any other finishes and stand wear and changes of temperature better. That is why piano manufacturers, car builders and other producers of handsomely finished woods use them in preference to other sorts.

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PAINTING AND FINISHING—Continued

surface; let it stand to the weather a few weeks, and then it may be coated, and will take oil paint very well.

To Deodorize Benzine.

The simplest way to deodorize benzine is to add a little perfume, such as myrbane (nitro benzol). By adding two pounds of caustic soda to one hundred gallons of benzine, stirring at intervals for twenty-four hours, and then distilling off with steam, the odor is greatly lessened, but it is impossible to remove the odor entirely. Another method is by adding 3 ounces of quicklime to a gallon of benzine; shake well. Let the lime settle, pour off and filter the benzine, using filter paper.

A Good Bronzing Liquid Wanted.

Turpentine affects bronzes, and hence should not be used in that material. A good grade of varnish thinned to the required fluidity for the purpose will give you a very good bronzing liquid, but benzine is best to thin it with; this for inside work. For outside bronzing better use banana liquid; it is more durable than the other.

For Large Cracks in a Floor try a putty made from cottage cheese five parts and unslacked lime one part. Mix to a paste. It sets hard and may be colored if desired. Use only the earth colors. Newspapers boiled to a pulp and wheat flour paste added makes another good putty for big floor cracks. For smaller cracks, especially in hardwood floors, a hardwood paste filler is good.

Removing Old Paint From Iron.

The following is Dr. M. F. Bonzano's recipe for preparing caustic potash lye for removing old paint from iron: Dissolve 2 pounds of potash in a bucket of water, add about 1½ pounds of slaked lime and stir it well. With a mop apply this mixture to the paint, and after a few minutes it may be easily removed by scraping. As rapidly as the old paint is scraped off rinse the iron with fresh water and dry it. This will leave the iron clean and bright.

Killing Pine Knots.

There are several plans for hiding pine knots and sap so that they will not show

under the paint. The old stand-by is shellac varnish, made thin, but this will not always do the trick, at least, not when wood alcohol is the solvent. For a fine job use silver or even gold leaf. No, that is not expensive, a few cents would do many knots. Shellac will sometimes cause the paint to peel off, outdoors, and will not always keep the pitch from striking through. Some use and highly endorse red lead and glue knotting, others use red lead and gold size, with a drop of boiled oil added. The trouble with glue size is that one must keep it hot or it will not work.

Practical Suggestions.

Use a paddle for stirring paint, not the brush.

If you want your putty to harden quickly, add some plaster of Paris to it.

A good floor crack filler may be made with common paste filler, adding color if required.

If the zinc white shows a yellow tint the discoloring is due to traces of cadmium sulphide.

Wet the sandpaper with benzine to make it cut better; for extra hard paint add a little ammonia to the benzine.

Cheap ochre makes a poor primer, and takes very little oil; the best ochre requires much more oil in grinding and mixing.

In mixing plaster of Paris do not pour the water into the plaster, but the contrary. Scatter the plaster as you stir.

If you suspect arsenic in the wall paper, wet the paper with some ammonia; if arsenic or copper be present it will turn blue.

To repair a broken ceiling, mix dry white lead and coach japan to a stiff paste and use this as a plaster. When dry, sandpaper smooth.

Exterior paint requires very little driers in summer, and in some cases none at all, as for tin roofs. Entirely too much driers are used by painters.

Fatty oil paint cut with benzine or turpentine to make it spread easy is not good for outside use where it will be exposed to the sun, for it will surely blister.

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Attractive

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"There is no art to find the mind's construction in the face." — Macbeth.

— BUT —

"The dwelling a man builds, reveals his personality, and through its halls and porticos runs the story of his life."

Now if the problem be given proper consideration, it means *time* and *time* is money. We would be speedily overwhelmed with requests if this were a *free* offer, consequently it is not free. No signed contract is asked for. We propose to make our work so pleasing and satisfactory as to demonstrate beyond a question that the *best* is certainly the *cheapest* for you. The fact that *houses* built from our designs *sell* advantageously when built proves they are *practical* and *desirable*. *This is an important matter should you wish to dispose of your property.*

REMEMBER:—It is not what you pay for plans that is the *real consideration*, but it is *what you get*. Why? Because upon your *plans* and especially the *details of construction* depends utterly the *proper or improper expenditure of all your building funds*. Quite important, is it not?

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Don't Neglect Your Furnace.

THE problem of heating the country home is still a vexed one. If wood is available for fuel, the big fireplace is sure to play a big and important part. The direct radiation furnace does much to ventilate the house as well as to heat it. If the furnace is treated merely as a producer of heat, and the right treatment is given to the problem of distributing the heat in the several rooms of the house, it lends itself to the solution of the problem with special facility.

It should always be remembered that the principle governing the distribution of furnace heated air is the siphon principle. There should be a double system of pipes, one to carry the hot air to the rooms, and one to return the cool air to the furnace. The hot air should be taken in bulk as near its destination as possible. By this is meant that the hot air destined to warm two adjoining chambers should go in one pipe to a point near the registers, and then be divided and sent to each room. To prevent the hot air from this common conduit finding its way into either room in too great quantities, it is necessary to partition the conduit for a certain distance below the point where it is divided into two pipes.

The size of the conducting pipes must be carefully adjusted to the heating surface which they are to serve. One must have in mind the distance from the furnace, both vertically and laterally. A room directly over the furnace, to which the heated air will naturally arise, does not need as large a pipe as one situated at a distance from the furnace.

The cold air intakes must be carefully managed, and there should be no less than two of them, taking cold air from either side of the house. Cold air should always be taken from the lee side of the house, and that it may be so taken there must be an intake from more than one

direction. It is quite possible to warm a house perfectly by means of a furnace fire, but not unless special care is exercised in every detail of the installation, and intelligence is always brought to bear in its operation. The furnace is not an automatic machine and must not be treated as such.

The Bath Room.

The modern bathroom is not a cubby hole. Those who build homes today give as much thoughtful consideration to this room as to any apartment of the house. A well-designed and properly equipped bathroom is in reality a room, not the two by four box of former days.

The best equipped bathroom will have a large tub, a shower bath, a sitz bath, a foot bath, a lavatory and a closet.

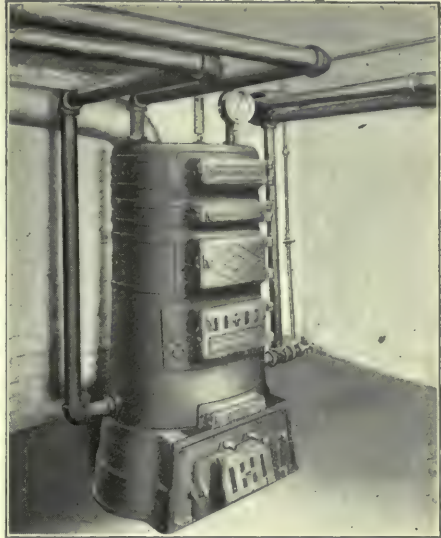
One plan, probably not so expensive as to be beyond the means of many home-builders, provides a bath, a shower, a lavatory, a foot bath and a closet for approximately \$175. The bathtub is five feet long, is porcelain enameled, has a roll rim, nickel plated double cock, supply pipes and waste. The shower is placed above the bathtub and is known as the portable type. The lavatory is fastened to the wall with one-piece enameled brackets. The slab, bowl and apron are all in one piece and the enamel is porcelain. It is fitted with nickel plated faucets, supply pipes, waste and trap. The foot bath is porcelain enameled, roll rim, white exterior finish and has a nickel plated supply pipe and waste. The syphonic closet is also porcelain enamel, has a quartered oak saddle seat and paneled cover and wooden tank with a marble top. Bath, lavatory and closet alone, like that described, about \$100. Emphasis ought to be laid on the fact that no amount of money expended in elaborate bathroom furnishings will overcome the defects of cheap plumbing.

A Little Boiler that does the Work of a Big One

¶ Because of its perfect construction and improved design, the **"RICHMOND"** Round Sectional Boiler for heating homes either by steam or hot water saves fuel and saves feeding—lessens not only the **expense** but the **labor** of heating the home.

¶ With this heating system you get all the advantages in the way of greatest fuel economy and the constant, every-day efficiency of steam or hot water heating at no greater cost than is required to install a hot air heating plant with its attendant big fuel consumption and uneven, hard-to-control heat-giving power.

¶ This small boiler, by reason of its economy, places steam or hot water heat within the easy reach of any home owner, whether the house be new or old.



"RICHMOND"

BOILERS — RADIATORS

¶ In this boiler the sections run *crosswise* instead of up and down. ¶ The bottom sections, which forms the ashpit, is of special heavy construction made in one piece with every provision for expansion, no possibility of breaking.

Corrugated Fire-Pot

¶ The second section is the firepot, which has an ingeniously corrugated inner edge giving additional heating service and preventing the deadening of the coal at the edges of the fire. ¶ The top sections, in which the water is heated, are a triumph in boiler construction. ¶ The gases are carried up from the firepot in combustion through a series of round openings and over-hanging arms in these top sections. They are carried upward until they reach a deflecting section which sends the flames down and back again to do more work.

All the Heat Utilized

¶ When the burning gases finally reach the smoke box they find a new kind of check damper, which automatically prevents the escape of the heated gases into the smoke box until they have done their full work. ¶ By actual test one small size boiler with this check-draft attachment will do as much work more economically than a larger size would without it. ¶ The grate bars are of a superior tri-

angle construction so arranged that part or all of the grate can be shaken as desired. ¶ The firepot has the clinker door at the grate line so that cinkers may be readily reached with the slicing bar.

Self-Cleaning Surface

¶ The firepot and a large proportion of the boiler above it is self-cleaning, while ample provision is made for cleaning other parts of the boiler by large clean-out doors without lowering the fire and interfering with the heating of the building.

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HEATING AND PLUMBING—Continued

The Chimney Corner.

By Edwin A. Jackson.

At least one fireplace is needed to complete the modern house. First because of the good architectural or decorative effect it gives to the room; second, because of the value for heating in damp days in Spring and Fall when the furnace is not running; and still more for the cheer and ventilation the blazing fire supplies.

Just as fine music, good literature and beautiful pictures add to the joy of the home, so the blazing fire brings peace to our souls. Holmes says:

"How much real joy has been kindled in hearts and homes by the communion of two congenial spirits with four feet on the fender, sitting in front of an open fireplace, when lights are low and business of the day over, and air castles were building, and pictures were painted in the live fire."

If in the new house, some desirable feature must be omitted, because of cost, by far better to omit expensive hardware, stained glass, and elaborate electric fixtures, and use the money so saved for the construction of a fireplace that will burn real logs or coal.

Such a fireplace, with proper foundations and with the necessary chimney to the top of house, is fairly expensive, but well worth the cost if properly constructed. However the amount involved and the results to be secured justify careful preliminary study as to location, size, and general appearance.

Often, because of faulty masonry, or lack of proportion in the size of the fireplace, the throat, and the flue, the fireplace smokes so that it cannot be used; which means a great loss of money in building the brickwork, and waste of space occupied by the useless chimney, to say nothing of the cold chasm where there should be a cheery fire.

The location of the fireplace is largely determined by the planning of the house. One cannot arbitrarily place a mantel as if it were a piece of furniture, but must consider that the brickwork requires at least five feet in the room for the fireplace, with an equal width of foundation in the cellar, and some two feet in width

for the chimney directly over the fireplace all the way to the roof.

In planning it is well to put the fireplaces so the chimneys will not cut up the rooms above. And it is economy to have the fireplaces and kitchen range grouped so the flues run in one stack. The flues should not run together into one opening but run side by side in one stack of brickwork. In a general way, it is desirable to have one fireplace in the living-room, as it is here the family will gather on holidays, and the pleasant place is to circle around the open fireplace.

A succeeding article will tell of the proper construction of the fireplace, flues and foundations. This introduction is mainly to tell Keith readers that questions relating to the chimney corner will be answered in these columns; or by mail if a stamped envelope is enclosed.

C. F. U. The trouble is undoubtedly in the height of your chimney. You do not mention as to this, but almost invariably a fireplace that smokes only when the wind is in a certain direction, has a chimney that is not high enough. The wind striking the higher object backs down the flue. It is absolutely necessary that the top of the chimney be higher than any neighboring object, to get good draft.

The best way is to continue the brickwork of the chimney, using the same material and keeping the same size flue opening as at present.

J. W. H.—When a few tiles loosen in the hearth or facing of the fireplace, clean the back and sides of the pieces carefully, dig out below the space from which the tiles have been removed, wet these places and the tile thoroughly and reset with Portland cement.

If some of the tiles are broken, it will be almost impossible to match the exact shade with new tiles. Remove enough tiles from the outer part of hearth to complete the facing, and run a row of new tiles around the hearth, as a border, to replace the tiles used or broken. It is desirable to secure and keep a number of extra tiles at the time the mantel is set, so that in case of breakage, the patching can be done easily and without showing the change in shade that invariably comes in different lots of tiles.

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is the slogan and YOU, present subscriber, will appreciate that if "KEITH'S" is to be better than it has been the past year, it will be mighty good and you certainly will renew your order for 1911.

Please notice this November issue as to general appearance and improvement in printing and how well the engraving cuts show up. This will be the standard. An artistic, practical magazine for Home-Builders.

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"THE HOUSE BEAUTIFUL" is a magazine which no woman interested in the beauty of her home can afford to be without. It is full of suggestions for house building, house decorating and furnishing, and is equally valuable for people of large or small income.

ELLEN M. HENROTIN,
Ex. Pres. Nat. Federation of Women's Clubs.

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But to have you test its value, for \$1.00 we will send you the current number and "THE HOUSE BEAUTIFUL" Portfolio gratis, on receipt of the Five Months' Trial Subscription coupon. The Portfolio is a collection of color plates and others of rooms in which good taste rather than lavish outlay has produced charming effects. The Portfolio alone is a prize which money cannot ordinarily purchase. Enclose \$1.00 with the coupon filled out and send to

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STATE

SPLINTERS AND SHAVINGS

Believe Plans Save Money.



THAT an architect's plans and specifications save money and prevent mistakes, extras and discussions, is the opinion of Edmund G. Walton, a prominent real estate dealer of Minneapolis. He argues that the cost of plans are small compared to what a single mistake would involve, and that plans by a competent architect are accurately drawn and carefully figured.

"They will save many times the cost, beside you will have the satisfaction of having embodied style and convenience, in your building," continues the article. "A competent set of architect's plans is a cheap investment in beginning the erection of a home. An artistic home costs no more than an 'architectural aberration,' as the saying is. A home well planned is half built. Reputable builders prefer to work on an architect's plans.

"A practical and experienced architect can save a builder more than his fees in building, and the mistake should not be made that it pays to attempt to build a house, without first getting your ideas in a condensed shape. This must be done so that the contractors can figure accurately and reasonably.

"First, an artistic exterior is essential; no extremities should exist in the architecture and knowledge of this important feature is only attained by practical experience. With an experienced architect a house may contain artistic features without additional expense to the client.

"Beside an artistic exterior, it is equally important to have a good interior arrangement; well shaped rooms, convenient access throughout the house, plenty of closets, linen drawers and dressers.

"Then you desire a well-built house, one in which the plastering will not fall off after it has been up six months or a year; one which will not need numerous other repairs, and one which, when the plans and specifications are carried out, will give you a complete habitable home. These desirable results are only to be had by employing an architect of skill and experience. The best thing for a client to do is to retain the services of an architect of experience and competency.

"Many people think that when they employ an architect that all he has to do is to make a few lines on paper showing arrangement of rooms, and a picture showing the entire building. In this conclusion they are much mistaken. The drawing of the plan is but the smallest part of the architect's work, for he must know cause and effect of every part of the building. This knowledge comes only by close application and experience."

Waterproofing Walls.

Please give directions for preparing concrete walls for asphalt or pitch, and applying it.

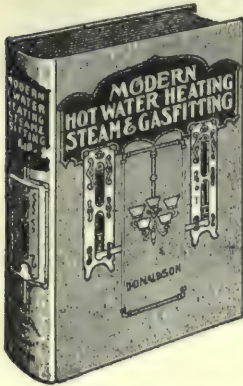
The only preparation necessary is to have the concrete comparatively smooth, but it need not have a hard troweled finish. It should also be as dry as is practicable.

Asphalt is seldom used for waterproofing purposes, but there is such a glamor surrounding the word that it is frequently used when the word "pitch" is intended. In practice, pitch is understood to be a residuum obtained from the distillation of coal tar, while asphalt is understood to be a natural bitumen which is fluxed with residuum oils in order to obtain the required consistency. The ob-

3 NEW BOOKS

THAT EVERY HOUSE OWNER OR RENTER SHOULD HAVE IN HIS LIBRARY

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A modern treatise on Hot Water, Steam and Furnace Heating and Steam and Gas Fitting, which is intended for the use and information of the owners of buildings and the mechanics who install the heating plants in them. It gives full and concise information with regard to steam boilers and water heaters and furnaces, pipe systems for steam and hot water plants, radiation, radiator valves and connections, systems of radiation, heating surfaces, pipe and pipe fittings, damper regulators, fitters' tools, heating surface of pipes, installing a heating plant and specifications. Plans and elevation of steam and hot water heating plants are shown and all other subjects in the book are fully illustrated.

The closing chapter, devoted to useful hints, contains information on a variety of subjects which will be found of interest and value to the workman, as will also the many useful tables at the end of the volume.

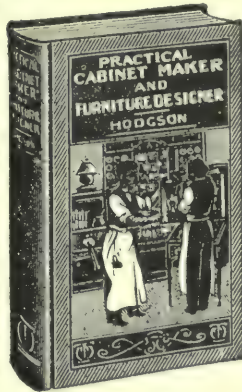
The Practical Cabinet Maker and Furniture Designer.

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An entirely new book on cabinet-making in all its phases, and is intended to aid young workmen in making all kinds of furniture from the simplest mission to the most elaborate styles. It contains lessons on the framing and joining of woodwork, gluing and the use of glue generally, veneering, doweeling, gliding, and completing fine cabinet work. It describes the various woods suitable for cabinet work and the best methods of working them. Various styles of work are shown, French, German, Queen Anne, Chippendale, Sheraton, Hepplewhite, Colonial, Adams, Louis XVI, Louis XVII, Louis Seize, Boule work, and other styles, thus enabling the student to recognize the style of a piece of furniture on sight.

The book is well illustrated with several hundred illustrations.



The Up-to-Date Hardwood Finisher.

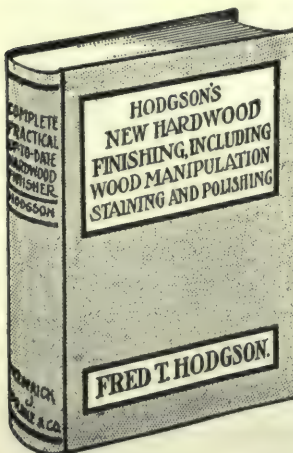
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Part 2 treats of the filling, staining, varnishing, polishing, gliding and enameling woodwork of all kinds of woods. It also treats on renovating old work, repolishing, revarnishing and wood finishing generally.



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SPLINTERS AND SHAVINGS—Continued

jection to asphalt, aside from its higher cost, is that the alkali in concrete sometimes attacks the fats in the oils, and if it does not weaken the waterproofing course itself, it weakens the bond between it and the concrete.

In applying coal tar pitch to dry concrete, melt the pitch in a kettle and put it on with a mop. The pitch should be hot enough to be very liquid. In applying pitch to damp concrete, particularly on perpendicular walls, it is difficult to make the pitch stick. The usual method is to first give the concrete a brush coat of creosote oil. This penetrates the concrete and the hot pitch has a tendency to follow the oil in.

A simple mopping of pitch or asphalt should never be depended on to protect against actual water, and is rarely used, even for damp-proofing, except on work that is of little importance. Where there is actual water to contend with, the usual practice is to use not less than five plies of felt with the pitch or asphalt, carefully cementing each ply to the preceding one, and if five plies are used where there is a head of 10 ft. of water, it is customary to add an additional ply for each additional 5 ft. to 10 ft. of water. For simply damp-proofing, three plies of felt is the usual practice, although sometimes only two plies are used.

New Cuban White House.

The President of Cuba has appointed a board of government officers to consider plans for constructing the new presidential palace provided for under the recent appropriation of \$500,000 from the lottery surplus.

Those appointed on the board are the Secretary of Public Works, the Chief of the Bureau of Civil Constructions of the Department of Public Works, the Chief Engineer of the city of Habana, the Chief of the Bureau of Sanitary Engineering of the Department of Sanitation, the Professor of the Architectural School of the University of Habana, the Director of the San Alejandro Academy of Paintings, and the Chief of the Bureau of Beaux Arts of the Department of Public Instruction.

It is expected that the building, if constructed, will cost much more than the sum named, and it is stated that this is simply the preliminary appropriation. The board will meet soon to invite the submission of plans, but it is probable that the competition will be limited to Cuban architects and that as far as possible Cuban materials will be specified for the building. The site probably will be that of the Villanueva railroad station now exchanged for the arsenal property.

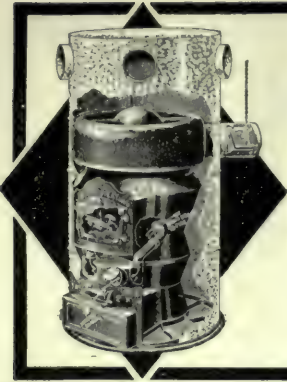
Interior Decoration.

An attractive series of postal cards in color, are at hand showing various schemes of decoration for interiors. The appointments of each room are in place in natural positions and are in keeping with the period represented. The suggestions contained will be of service to all confronted with the problem of decoration. The series of 10 cards will be sent postpaid upon receipt of 10c. Address Dept. K., Alabastine Company, Grand Rapids, Mich.



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Comrades of the Trails.

By G. E. Theodore Roberts.



HIS is a story of a young Englishman in the Canadian wilds far from civilization. With the exception of a mother and an aunt who seem to have been mentioned as a matter of necessity, in an early chapter, the author seems to have forgotten to put any women in his story. Yet he contrives a very interesting and exciting plot with the feminine entirely eliminated. Dick Ramsey, the young Englishman, becomes a trapper with an Indian partner.

He proves his worth and the Indian teaches him wood craft and trapping. Soon surprising things happen to them and their traps, uncanny incidents that work upon the superstitions of the Indian and he urges Dick to go elsewhere to trap. But the white man is not so easily disturbed. He finally discovers the presence of a wild man accompanied by a panther. A most exciting and unusual situation develops in which the mystery is entirely solved.

The book is somewhat of a departure from the beaten track but is none the less interesting and entertaining. Price \$1.50. L. C. Page & Company, Publishers, Boston.

The Native Born.

By I. A. R. Wylie.

A story of British India. A prologue introduces a scene that might have happened during the Sepoy rebellion. A handful of English men and women, are defending a bungalow against a native horde that is soon to overcome them.

The story deals with the children of these unfortunates and is twenty years later. The old Rajah who led the attack is supposed to be dead and his son occupies the throne. A recluse, he knows little of the world and certain of the English colony contrive to make his acquaintance to further certain financial ends of their town. A beautiful young woman is instrumental in bringing him from his re-

treat. Unfortunate in her family history she might be called an adventuress. Yet the real beauty of her character develops with the story and endears her to the reader in spite of all. The Rajah undertakes certain projects, with the high purpose of benefiting his people, playing into the hands of a dishonest English financier. The girl must obey the financier because of his hold over her socially and her mother. The Rajah is in love with her when her engagement is announced to an English captain. The financial projects are ruined by the financier and the Rajah finds himself tricked by a people he had thought were the greatest on the earth. He pays all who are losers, offers an opportunity of escape for the women and children but leads his people against the English believing that all are as he has found a few. The English women stay with their husbands and families and the scene of twenty years previous seems about to be re-enacted when a culmination of events leads to the withdrawal of the natives and many things are cleared up, leading to a happy ending.

It is a book which afforded the reviewer much pleasure. Price \$1.50. The Bobbs-Merrill Co., Publishers, Indianapolis, Ind.

Am I My Brother's Keeper.

By Edna Smith-Deran.

A book dealing with many phases of modern life. It will be of interest to students of social conditions. The prisons of today are discussed with modes and effects of punishment, industry, wages, idleness, the home and environment are set forth in a convincing manner. The chapters devoted to marriage, divorce and social questions contain many thoughts instructive and interesting. Intemperance is discussed, setting forth many points now receiving wide consideration. The relation of education and the churches to these questions is clearly stated. The book is more instructive than pleasing.

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CONTENTS FOR DECEMBER

	Page
EDITORIAL.....	362
AN AMERICAN HOME OF UNIQUE DESIGN.....	365
AN INTERESTING BUILDING EXPERIENCE.....	368
THE HISTORICAL ASPECT OF THE BUNGALOW.....	369
CONSTRUCTION DETAILS OF THE HOME.....	372
THE POSSIBILITIES OF BOULDERS AND COBBLESTONES.....	375
AMERICAN HOMES AND CIVIC BEAUTY.....	378
A HANDSOME SIX-ROOM BUNGALOW.....	382
DESIGNS FOR THE HOME BUILDER.....	384

DEPARTMENTS

DECORATION AND FURNISHING.....	396
ANSWERS TO QUESTIONS ON INTERIOR DECORATION.....	402
HOUSEHOLD ECONOMICS.....	406
TABLE CHAT.....	410
CEMENT.....	414
PAINTING AND FINISHING.....	420
HEATING AND PLUMBING.....	424
SPLINTERS AND SHAVINGS.....	428
GLIMPSES OF BOOKS.....	432

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"THE RENDEZVOUS"—HOTEL EL TOVAR, GRAND CANYON, ARIZONA
Built of logs, brown stained, with rose colored draperies and furnishings in keeping, excellent ideas are presented for a rustic interior.

KEITH'S MAGAZINE

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DECEMBER, 1910

No. 6



THE BROAD ASPECT OF THE HOUSE, SHOWING THE SHINGLED EXTERIOR AND WHITE TRIM

An American Home of Unique Design

By MARY H. NORTHEND

(Photos by the Author and Felix J. Koch)

HOUSES of the bungalow and cottage type are today far more popular than dwellings of more extensive proportions.

The reasons for this are obvious. The American woman is coming to appreciate the fact that compactness insures coziness, and that, in addition, it lessens the labors of housekeeping. In this age of progressiveness, time is a factor to be contended with, and, in consequence, time-saving innovations of all sorts, even in

house building, are welcomed. Then, too, there is something homelike about the small house, that never seems to be incorporated in the large dwelling, no matter how fine or attractive it may be, and this reason, perhaps more than any other, has been responsible for the constantly increasing popularity of the bungalow and cottage.

An excellent example of the compact cottage house is illustrated herewith. It is the home of J. H. Pope, and was de-



THE LIVING ROOM WITH BRICK FIREPLACE AND BOOKCASE IN OVER MANTLE

signed as an all-the-year-round residence. It stands in the midst of picturesque surroundings in the little town of Hamilton, in Massachusetts, on a short by-way, just back of the main road that sweeps on from the town proper to Beverly Farms. The contrasting tints of its exterior finish harmonize admirably with the dark green tones of the stretch of grassland in which it is ensconced, as well as the lighter greens of the low hills which flank it on the left.

It is built on a foundation of rough fieldstone, picked up on nearby premises, and a feature is the great outside chimney, built partly of stone and partly of brick. A large bow window at one side of this chimney affords opportunity for decorative treatment, most happily worked out, and the quaint casement windows inserted in the second floor chambers add an artistic touch to a charming ensemble. At one end of the front is a good-sized covered veranda, fitted up as

an outdoor living-room, and all about the front and sides thrive pretty, flowering shrubs.

The exterior finish is of shingles, stained a reddish brown, with trim painted white, and the deep pitched roof is likewise shingled, but left untinted.

A door leads from the veranda into a vestibule, finished in white paint, the walls hung with red burlap, and this connects with the living-room, a spacious apartment characterized by a large handsomely finished fireplace, topped with a built-in cupboard, glass enclosed, and used as a bookcase. Paper of pretty tropical design, in tones of green and yellow, covers the walls, and the trim of the windows and cupboard is stained white to match the molding.

The floor is of oak, highly polished, as are all the floors throughout the lower floor, and over its surface are laid large rugs, repeating in tone the coloring of the wall hangings. Dainty lace draperies



THE DINING ROOM SHOWING CHINA CUPBOARD WITH DIAMOND LEADED DOORS
FRAMED BY THE WHITE FINISH

shade the odd windows, and beneath the large bow window extends a broad seat upholstered in harmonizing tints, and the long, low bookcase, arranged at one side of the room, is finished in the same fine wood.

A broad doorway, hung with heavy green portiers, separates this room from the dining-room, a cozy apartment finished in white wood, its walls covered with a dado of red burlap, topped with a narrow white plate rail, above which rises a frieze of California poppies in shades of red and green. A large art square partly covers the polished floor, and the furniture is entirely of oak. A feature of the room is the spacious built in cupboard, arranged at one side in imitation of an old-time buffet.

From here opens a small hallway, entered from the outside by a separate door,

and connected with the second floor apartments by means of a low staircase, beneath which is a large closet for storage. Leading from the left of this hallway is the finely appointed kitchen, finished in cypress, stained olive green, the walls tinted a light buff, and beyond this is the pantry fitted with cupboards and other conveniences.

Behind the dining-room and kitchen are two large apartments, one used as a den, the other as a chamber, and both nicely finished and furnished. Between the two, and connecting with them, is the bathroom, a good sized apartment, equipped with the best open plumbing.

On the second floor are several large chambers, all finished in dainty color schemes, the one above the living-room being a combination of blue and white. It contains a large open fireplace and

built-in window seat, softly cushioned, and at one side it opens into a recessed space arranged as a trunk room.

A large cellar extends beneath the main rooms on the first floor, and it is finished with a cement floor and plastered walls. The house was built by the day at a cost of \$4,200, but if cheaper materials were used, it could easily be constructed for \$3,000. It is heated by steam, and lighted throughout by electricity.

In every particular this little cottage

depicts the best characteristics of the small house. Note the pleasing layout of the rooms, the convenient storage spaces, and the well-planned lighting that each apartment may be bright and cheerful. The somewhat broken symmetry of the exterior is not unpleasing, and the irregular placement of the dormer insertions causes no incongruity. It is a simple, well-planned home, where careful consideration of essential details has been conducive to securing attractive results.

An Interesting Building Experience

By THOMAS E. LAWRENCE

I built this house on a corner, I had the plans reversed, to make the dining room and library come on the same side as the street.

First I had the plot surveyed and staked off, then hired three Italians to excavate, and in about three weeks was ready for the footings for the foundation.

An estimate was obtained on labor for building the bluestone foundation from a mason who was recommended to me, at eight cents a cubic foot. I then got an estimate on the bluestone of seven and a half cents per cubic foot, and after buying a load of Portland cement we were ready to start on the foundation.

I then secured an estimate from another

mason for laying the brick in the walls above foundation, and we started immediately on that.

The building inspector advised me to make the walls twelve inches thick above the foundation and he also advised to use steel columns and I beams instead of brick piers, and to use them on one side only, and continue them to the top story, which makes a very strong job. The brickwork was completed in about six weeks and in the meantime of course the framers were laying the beams as fast as the bricklayers finished a floor.

I had the framers put two extra rooms in the attic, and used metal shingles on the roof.

I got an estimate on tiling the floors of the kitchen, bath and vestibule, all of which was done for \$60.

A hot water plant was installed and the boiler and pipes covered with asbestos. I intended to get the hot water plant from an out-of-town concern, but a local concern offered me better terms of credit, and so I accepted their bid.

We have both gas and electric lights in the house.

The trim is oak, with floors of hardwood throughout.

The house complete cost me \$7,000, and allowing \$1,000 for my time in superintending the same would make the price \$8,000.



THE HOUSE WHEN COMPLETED

The Historical Aspect of the Bungalow

Its Hindoo Origin and Its American Development

By MABEL PUTNAM CHILSON

HOW many people know what they are talking about when they ask a contractor to build them a bungalow? Before investigating the subject myself, I said to a woman who had just leased her beautiful home at San Luis Obispo, "What is a bungalow?" "Oh," said she, with a shrug of her shoulders, "it is merely suggestions of broad lines. In fact, everything now-a-days is a bungalow, you know." So, indeed. Everything does seem to be called that, though how correctly we may judge after running through a few points as to the original meaning of the word.

In the first place, we find the word bungalow is derived from the East Indian (Hindustani) adjective "bangla," which means belonging to Bengal. Adaptations of the word have been made from time to time, particularly by the English residents who built for themselves various forms of the "bungala" or "bungalo," adapted to the climate of that scorching country. The original building of this sort had a roof of thatch overhanging the walls of unbaked brick. An open porch surrounded the building, in the center of which was a spacious hall. Essentially the original bungalow contained no second or upper story, but as adaptations of the original are being constructed now in many parts of the world, and as they are being made of wood and other materials, it has grown possible to have low, rambling bedrooms constructed under low, rambling roofs. However, the direct attribute of a bungalow, that catches the eye of the casual

observer, and makes him cry out "bungalow" as he approaches it, is of course the low, broad expanse of roof. From this very fact has grown the habit of looking for expanse, roominess, open doors, or perchance an improvised room on the veranda; the whole being at a glance suggestive of a warm climate and of living next to Nature's heart.

Some of the California bungalows, especially in the vicinity of Los Angeles, are built with the combined ideas of the East Indian hall (living-room) and the Mexican "patio" or open court, thus hav-



THE CORNER "TOWER," AUTHOR'S CABIN



THE AUTHOR'S PICTURESQUE CABIN, ERRONEOUSLY CALLED A BUNGALOW

ing all accessory rooms around the main spot of congregation and giving them all a chance for good lighting and plenty of air.

It may be interesting to the uninitiated to read a little concerning the East India bungalow that has undergone more or less changes. In cities like Bombay some of the bungalows are palatial homes. Then there are public bungalows (conducted by the government, for the accommodation of travelers). These are all quadrangular in shape, one story high, with peaked or "hip" roofs (either thatched or tiled), projecting so as to form either porticos or veranda tops. Here the bungalows are divided into suites of two, three or four rooms, with a bathroom containing earthen jugs of cool water. In the cheaper bungalows travelers are expected to provide their

own bedding, cooking utensils, etc., while the better class bungalows are conducted by men who are often skilled cooks, and who supply many little "extras" for guests. The cost of such a place to a traveler used to be about fifty cents; but with the innovation of railroads, these conditions are changing, and India is fast losing the charm of these fascinating bungalows. Modern conveniences are taking the place of the annoying method of traveling with a troop of servants and being obliged to stop every twelve or fifteen miles, the distance usually allotted between bungalows. India maintains as well many federal bungalows for the accommodation of soldiers.

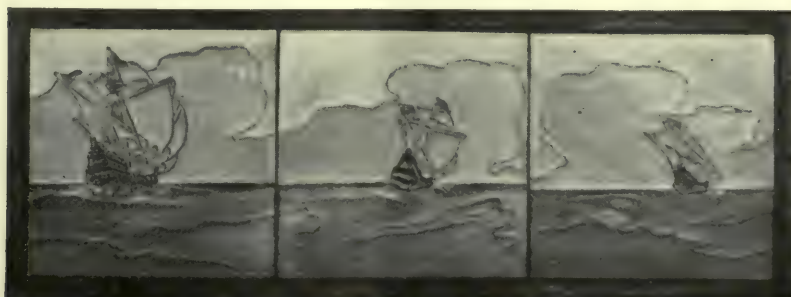
The main feature of the San Luis Obispo bungalow to which I referred, is its delightful windows, most of which are several feet in width and of French plate

glass. The living-room being 30x40 feet in size, gives a wonderfully commodious effect to the whole interior, while lending itself admirably to Bohemian entertainments, for which the owners are famous. One corner of this living-room is fitted with glass closets and an extension table and is used as a dining-room. This latter statement is made simply to emphasize the fact that originally bungalows had no special dining-room, the living-room answering that purpose admirably. In fact, many of the bungalows under construction today boast no sign of dining-room—or for that matter, bedroom, the owners intending to use couches in the living-room. So that really the living-room does service as a happy combination of all rooms, save the kitchen, which is often merely a screened-in porch. Many people eat all their meals out of doors, anyhow, where the climate will allow, though in most places the breakfast is eaten in doors; for the cool nights in California leave a certain chill in the atmosphere which does not wear away until after the breakfast hour.

One annoying feature of the bungalow is its too great ability to carry sound from one room to another. As plaster is not used, the walls are absolute sounding-boards.

The thought that any kind of dwelling having a general living-room must necessarily be a bungalow, is a great mistake. People drive past my little mountain cabin and shout, "Oh, see the pretty bungalow!" But as a matter of fact it is not a bungalow, the roof line being entirely broken by a five-sided tower of windows.

Again, in a suburban part of San Francisco, I built a two-story house having on the lower floor a living-room 18x24 feet in size. Above were two bedrooms accommodated by an 8-ft. ceiling, one of the rooms containing twenty-eight angles of ceiling. The roof effect is extremely picturesque from the outside, while at least odd and cozy looking inside; although at the time of building, the idea of eliminating an upstairs regulation ceiling was obviously to save expense. This house contained a clinker brick fireplace—all bungalows should have this acquisition—and was finished outside with embattlement trimmings. Because of this external appearance it was ultimately dubbed by the neighbors "Blarney Castle;" and still, in the face of these conditions, newcomers would insist upon calling it a bungalow. That was somewhat due, perhaps, to the fact that it was shingled.



Construction Details of the Home

Waterproofing a Damp Cellar

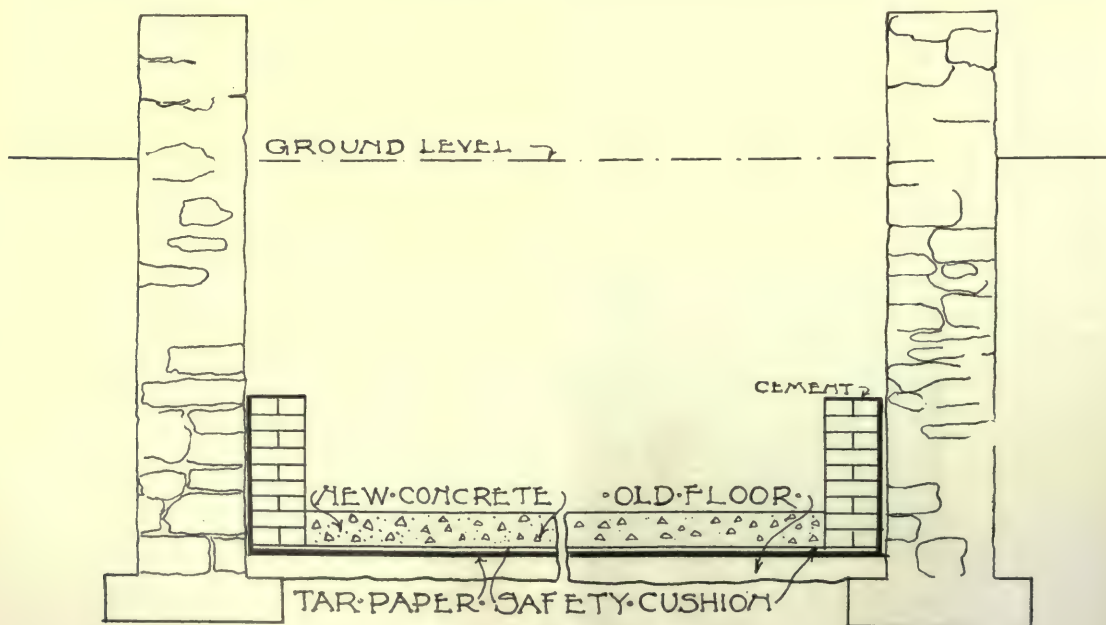
By H. EDWARD WALKER

(Continued from the November Issue)

THIS IS a problem in which many of our readers are vitally interested and information seems meagre even among those employed actively in building construction. Ineffectual methods spend money uselessly and leave the problem still unsolved.

It is considered best to correct a damp cellar from within, rather than go to the trouble of digging out all around the walls, to install drain pipes and waterproofing materials. It may be that shrubbery and walks would have to be disturbed, making a very costly job, with no more efficiency. The proper external treatment, at the time of construction,

was taken up in the previous article, together with a cheap and effective method of correction, from the inside. The method to be described is not open to some objections that might be made to that in the previous issue and can be made sufficiently strong to resist any water pressure likely to be encountered. If there is water in the cellar, a hole should be broken through the cement floor in one corner and a barrel sunk into the earth as in the previous article. It is best to place the barrel in position soon after starting the hole, and excavate from it, thus avoiding any undermining of the walls. The water will seek the hole, it being the lowest point, leaving the floor



(Fig. 3)

dry. A moderate excess of water can be kept down with a pump during corrective operations, after which the hole is to be filled up.

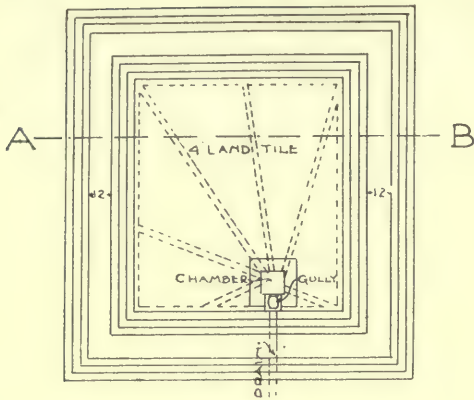
The cellar floor and a distance of two feet up on the side walls, should now be thoroughly cleaned and smoothed off, using cement for the purpose if necessary. Three ply of tar paper is used for waterproofing attached with hot pitch, after the manner of roofing, in generous quantities. The two feet of sidewalls is treated first, allowing a six-inch lap down upon the cement floor. Next the tar paper is applied to the floor, carefully covering the lap from the sidewalks. Waterproof felt paper manufactured for this purpose will be an improvement over the tar paper. When employed on more important work this has been called the membrane system. A safety cushion one inch thick, composed of one part cement and two parts sand, is next placed over the tar paper to protect it. Build an eight-inch brick wall against the tar paper, on the side walls, all around. This wall might properly go up to the ground level and its thickness may be varied according to the water pressure. Six inches of concrete is now placed over the "safety cushion" and if the situation demands it, may be reinforced with steel rods or fabric. This will determine largely the height and thickness of the brick walls at the sides, they being of service to hold down and resist the upward thrust of the water pressure against the floor. The upper surface of the floor is troweled off in the usual manner and the top of the brick wall may be used as a cemented shelf if not built too high to be of service. Fig. 3 shows the old cellar floor, the walls of the house, the tar paper, the safety cushion, the brick wall and lastly the new concrete floor. The drainage hole is closed up last of all, first being pumped out if water has collected since the previous removal of same. If the water collects quickly it should be reduced as

much as possible to allow the cement, used to close the hole, a proper time to harden. A piece of metal lath will be valuable for reinforcing, cut to fit snugly in the hole. If the water pressure is considerable it will give strength to the freshly placed concrete filling. Having re-established a continuous floor, the waterproofing can be applied and the cement surface of the remaining portion completed. The cost locally may be obtained as follows. The tar paper can be applied by a roofer who will estimate it at a price per square foot or square, equal to 100 square feet, placed in position. Figure the brick work at the local price per thousand laid. Seven dollars per cubic yard is an average price for the "safety cushion" and the concrete, but the local price may vary.

An Unusual Case

Unusual situations sometimes present themselves, due to conditions out of the ordinary, but none the less important to our readers who are confronted by them. Along our sea coasts are innumerable rivers whose waters are influenced by the ocean tides. The fresh water is backed up for a considerable distance and the rise and fall of the tide is often represented by many feet. Basements located along the banks are often damp and the different levels of the tide plainly apparent.

A case in point was that where the water percolated into a cellar, until at high tide, it reached a height of four feet above the floor level, receding at low tide to within six inches of same. It was found by levels taken, that the sewer was located in such a manner that the water could be drained from the cellar, and that the sewer was of sufficient size to take care of any reasonable excess of water at certain seasons of the year. A drain was put in place with some difficulty which disposed of the water as it accumulated, but of course, did not ex-



(Fig. 4)

clude it. The nature of the soil and the attendant difficulties made an external vertical damp course a very expensive proposition, so it was considered best to confine operations to the interior. The bottom of the cellar was excavated to a depth of 18 inches below its original level.

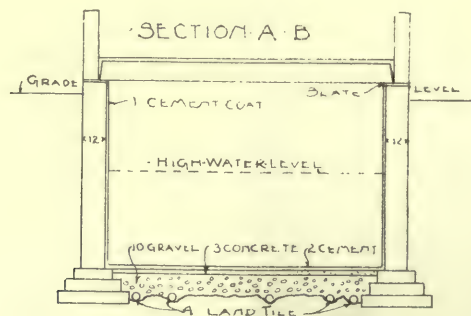
Trenches were formed as shown on plan (Fig. 4) in which were laid 4-inch earthenware land tiles, to discharge into a small chamber at the back of the gully trap. The trap with back inlet was sunk into the floor to disconnect the subsoil drain from the soil drains to which the gully trap was connected. A 10-inch

layer of gravel, free from sand, was spread over the whole floor. Upon this was placed 3 inches of Portland cement concrete, with a 2-inch granolithic rendering to form the floor, which had a pitch of 1 inch to the drain.

The walls were plastered with Portland cement and sand and finished with a coat of trowelled neat cement, with all internal angles rounded.

A horizontal damp course of slate, bedded top and bottom in cement, was placed under the first floor joists to prevent dampness ascending to the rooms above by capillary attraction.

The flow through the subsoil drain was constant, but variable due to the tidal pressure. The walls gradually dried out leaving the basement perfectly dry. Fig. 5 is a section on line A-B of Fig. 4 showing water levels and materials employed in the new work. The presence of a wet dirty basement is a menace to health and deprives the building of space, that in its peculiar service, cannot be supplied elsewhere. Unfortunately as such a situation may be with the attendant cost to make it habitable, it is money well spent.



(Fig. 5)

The Possibilities of Boulders and Cobble-stones

By MRS. KATE RANDALL

THE modern architect must be a joy to the geologist for he so thoroughly appreciates the beauty and possibilities of boulders and cobble stones. Great stones, four or five feet in diameter, that have been the playthings of mountain streams till they have the polish of ages, are incorporated into foundations, porch pillars chimneys and walls. No cut stone can approach them in picturesqueness and the community is indeed fortunate where boulders are abundant, for they are almost the first thing a man wants when he begins to improve his lot. Perhaps a fine tree is left two or three feet above the grade, and he is particularly anxious to save it. All that is necessary is a retaining wall of these great stones, well cemented together and filled with

soil. His tree is no longer a mutilated thing, but a most charming addition to the neighborhood. One illustration shows very successful work of this kind and also how most artistic garden seats may be incorporated in the retaining walls—often three or four seats in the same circle. For walls nothing is more satisfactory, either alone or combined with burnt bricks or cement. Where it is not necessary to have the walls water tight, they are often laid up without cement and nothing short of an earthquake can move them. No one understands the use of natural stones as well as the Japanese, and we have borrowed many of their ideas with success. Where a short cut across a bit of lawn would be convenient, and probably inevitable, the Japanese would lay large,



INTERESTING BUTTRESSES OF BOULDERS AND COBBLE-STONES



A RUSTIC SEAT OF COBBLE-STONES AND BRICKWORK, SUPPORTING A FINE TREE

flat stones, just as they are quarried from the bed of the stream, in a careless, irregular way, wholly Japanese, across the bit of lawn and have a most unique walk. The grass might grow a trifle higher between the stones, where the mower

could not reach it, but the effect is very pretty.

Modern chimneys are works of art. Stones almost the size of a wagon at the bottom and graduated in size to the tops. We secure an air of prominence



ANOTHER VIEW OF TREE SUPPORTED BY THE RETAINING WALL OF BOULDERS



DIVERGING PATHS WITH BRICK AND COBBLE-STONE APPROACHES

for our homes with such a chimney. It cannot be moved in a day, and we restless Americans need the anchorage of such chimney corners. It is a question though, whether the very small cottages we see with such an anchorage, are not

like the hats of the day, more curious than beautiful.

An ingenious man will find the possibilities of cobble stones almost endless, and their artistic combinations with other materials a most fascinating pastime.



A TERRACE WALL, CHIMNEY AND BAY WINDOW, FOUNDATION OF COBBLE-STONES AND BRICK COPING

American Homes and Civic Beauty

Composition and Environment in Harmonious Relation



WHAT harmony of color and construction we find in nature. This thought came while picking a bouquet of cosmos of special size and beauty growing among the shrubbery during our bright fall weather or "Indian summer." The petals a delicate pink with the rich gold and black center, supported upon the slender stem, seemed beautifully blended and constructed. How crude is man in his conceptions and their final execution.

His interest is centered in his own petty problem and although his genius may be of high quality and his ability to carry things to a successful conclusion of the best, yet how little he sees outside of that. The larger view taking in the problems of common interests is lost sight of and the part becomes of more importance than the whole. This is especially true of the home. The home-builder in his love of family, of home life and self interests, cares more for the single unit represented by his own house, than he does for the general good appearance of the whole city. This is not unnatural but yet is detrimental to civic beauty. To build the city beautiful which will be not only a source of pride to us as residents, but is to attract other home builders because it is beautiful, we must lay our plans on broad lines.

Harmony of purpose is the first essential. The problems must be treated in their large aspects. The general method of procedure best suited to the requirements of the given locality must be roughed out to begin with, leaving the

exact details to be worked out at leisure. Natural geographical advantages must be made use of in the location of parks, boulevards, etc. The requirements of the city in all phases of its life must be carefully considered that each shall be located to produce the best results. Having done this, the development of the various problems may be worked out.

To do this we must think first in streets, then in blocks, and last of all in the individual lot and its improvement.

The grades, widths of roadway, sidewalks and boulevard strips having all been wisely provided by experts, we may consider the lots as ready for improvement even though the above conditions have not yet been carried out. Assuming that it is desired to produce a beautiful city with streets containing homes not only beautiful in themselves but in harmony with those about them, certain restrictions are necessary. Color and kinds of materials enter largely into this. Building restrictions requiring brick, cement and wood as features of design in certain locations would tend to the employment of harmonious architectural styles. All brick or all cement or all wood houses in a certain district would also produce fairly good results.

The present method that obtains in so many of our cities is to be deplored. Houses of incongruous materials and design stand side by side, because proper restrictions are lacking to produce harmony.

What at first would seem to be a hardship upon the individual would soon demonstrate its wisdom in the improved



A HOME-LIKE DESIGN IN A BEAUTIFUL SETTING
—Bertrand & Chamberlain, Architects



A DIGNIFIED AND IMPRESSIVE USE OF STUCCO AND BRICKWORK
—Wm. M. Kenyon, Architect



A PLEASING COMPOSITION WITH TWIN GABLES

—Harry W. Jones, Architect

conditions and the idea would take hold in many localities. Restrictions at the present time are imposed by owners of property desirous of upholding a certain standard of excellence in improvement. These matters should be under municipal control and administered in a broad, intelligent manner, for the good of the whole community.

Let us not consider this too ideal. At no previous time in America has there been so much public interest in civic beauty. Each city is considering vast problems of improvement advised by eminent authority and are spending vast sums in carrying them out. The residence districts are of the greatest importance and the presence of many beautiful homes of harmonious design shows what might be accomplished if they could be given a common setting.

By way of illustration four houses are shown which, had they been built in the same block, would have produced the harmonious atmosphere and appearance so much to be desired. The four different designers evidently were in harmony as

to methods and materials for the houses belonging to the same architectural family and each is of red brick and stucco with stained wood trimmings. Collectively they are a splendid illustration of the point under discussion.

The house by Messrs. Bertrand and Chamberlain, architects, has that home-like appearance which we would all like to have in the house we have built for a home. It suggests peace, quiet and rest after the day in the busy city and its dignity gives pride in its possession. The red brick of the lower story is laid up in a wide joint of white mortar and second story is of stucco upon expanded metal lath. The trimmings of wood are given a coat of brown preservative stain, which brings out the grain of the wood. The porch with its sloping roof toward the front, flanked by brickwork pierced by gothic arches, is a particularly pleasing feature. The shrubbery is well placed about the base lines giving a proper setting to the house. It was built at a cost approximating \$9,000.

A quiet, dignified design in which the



HALF-TIMBER DESIGN ADMIRABLY ADAPTED TO THE CITY LOT

—Cecil Bayless Chapman, Architect

value of wall surfaces is emphasized is that by Wm. M. Kenyon, architect. The windows are grouped, thus giving abundant light and preserving large areas of wall of effective materials. The quaint entrance porch and terrace wall are of special interest. The houses in the vicinity are not at all in harmony either as to materials or design. The house is estimated to have cost \$12,000.

Another house of identical materials as the foregoing is that designed by Harry W. Jones, architect. In its garden setting, surrounded by the wall of brick, it seems eminently fitted to the home life. Elevated above the street it has an exclusiveness to be desired in city environment. The little gabled porch, with its entrance at the side, leads naturally to the garden or street. The vine trellis and arbor promise much for the future

when the vines have attained their growth. A conservative estimate of the cost of this house is \$12,000.

The remaining illustration of the house by Cecil Bayless Chapman, architect, is especially well adapted to the narrow city lot. Unlike the other houses the second story is designed with half timber effect, and the stucco is of a rougher texture. The brickwork is laid up with Flemish bond, giving a close representation of European methods in the style. Life is given the design by the white painted screens and white trim of the first story. The bay projecting from the lower story of the dominant gable feature, makes a pleasing composition. The cost is estimated at \$10,000. At the right is seen one of the worst examples of inharmonious architectural types.

A Handsome Six-Room Bungalow for \$2,250

By CHARLES ALMA BYERS

(Photographs by the Author)



THE EXTERIOR SHOWING MASSIVE ENTRANCE PIERS AND WALLS COVERED WITH SHAKES

—E. B. Rust, Architect

THE HANDSOME six-room bungalow illustrated by the accompanying photograph and floor plan was recently built near Los Angeles, California, for \$2,250. It is of pleasing and attractive design, both inside and out, and for a bungalow is unusually substantially constructed. Its woodwork consists of Oregon pine and California redwood, while its masonry work is of concrete over brick. The siding to a height of two feet four inches, which is in line with the lower edge of the window casings, is of ordinary weatherboarding, and above that point it is of redwood shingles, spaced to resemble split shake. The chimney and porch pil-

lars are of massive design, and the floors of the porch and side pergola are of cement.

The house contains living room, dining room, kitchen, sewing room and two bed rooms. The living room and dining room occupy the front of the house and are connected by a broad arch, with a built-in bookcase four feet in height on either side. Both rooms have beamed ceilings and hardwood floors. The woodwork is finished to resemble fumed oak. The living room possesses a broad brick fireplace, with a built-in seat on one side and a built-in book case on the other, while the dining room contains an excellent built-in buffet. The living room is 14x18 feet and the dining room 12x18 feet.

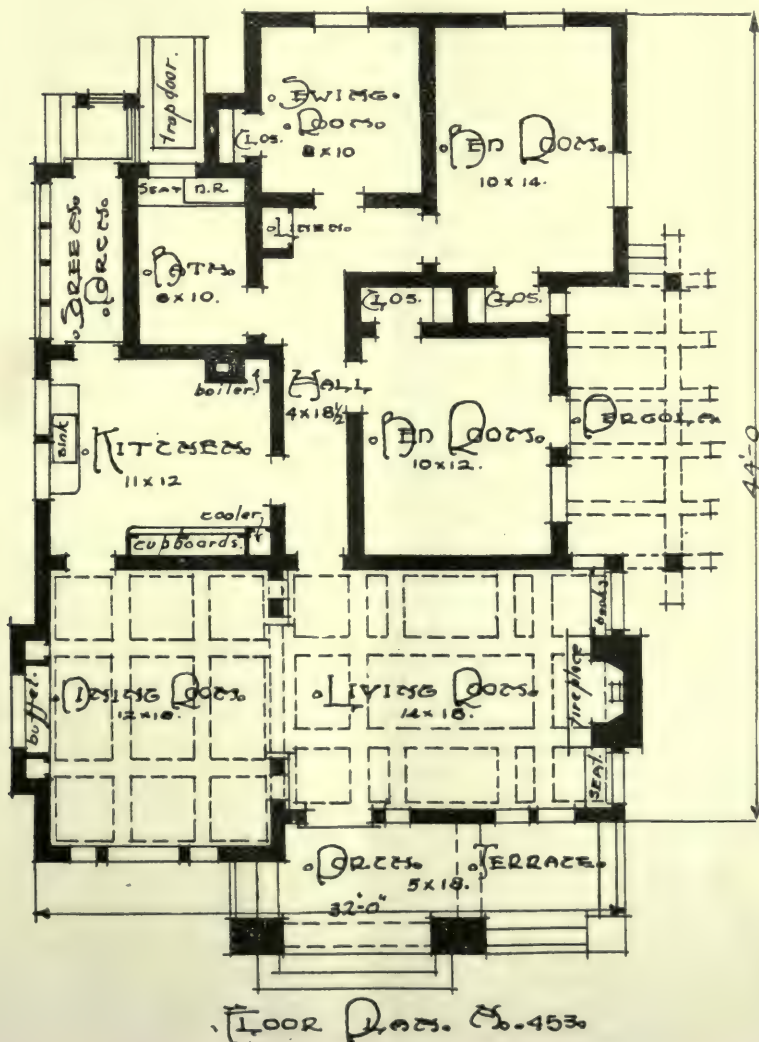
A well designed hallway, 4x18½ feet, connects the living room with the kitchen, bath room, sewing room and the two bed rooms. The kitchen is 11x12 feet and contains a cooler and spacious cupboard room. It, like the bath room, is finished in white enamel. A small screen porch is accessible from the kitchen.

The halls of the sewing room and two bed rooms are tinted in delicate colors and the woodwork is enameled white. The sewing room is 8x10 feet, the front bed room 10x12 feet and the back bed

room 10x14 feet. All are provided with large closets. A side pergola is accessible from the front bed room.

The house has a frontage of 32 feet and a depth of 44 feet, making it particularly adaptable to a small city lot. Its floor plan is unusually well arranged, being compact and at the same time making every room conveniently accessible. It should be duplicated in almost any locality for from \$2,200 to \$2,400.

The house was designed by E. B. Rust.



Designs for the Home-Builder



It is refreshing to see the push and energy of some home-builders at this season, when winter is upon us and unpleasant weather for construction. A case in point is that of a man who recently purchased a fine corner lot in a desirable part of town. While the papers were being looked over and put in shape, he had the plans prepared. Having closed the deal on Saturday he met an excavator on Sunday at the lot and arranged all such details as price, location of house as regards trees and existing buildings. The disposition of trees sacrificed, black dirt and sand was fully determined and Monday morning found the teams at work pushing it right along, ready for the next step in the construction. The price agreed upon in this case was not the lowest offered, the owner preferring to pay a trifle more to a man he knew would lose no time, for he said, "I've got to put it right through." Other contracts for this house are under way and in a short time the house will be enclosed, the heating plant will be installed and all will be plain sailing. Even if some exterior details are held up for a time there will be many a fine day that may be taken advantage of even in midwinter. It is not necessary to postpone starting a home you ought to have soon and have it dragging along till midsummer before it is ready. With a little energy behind it the project can be put through as well now as later

Design B 198

All exterior walls, columns and partitions of this building are to be of plain concrete. The former are to have a bush-hammered finish and a few colored tiles besides the inlaid frieze to relieve the

plain wall space. Structural steel covered with tile is to be used for roofing, and the eaves and gutters are to be constructed of reinforced concrete. The floors, which are reinforced, are carried by ten inch I beams. In the living room mahogany stained birch trim is considered, and weathered oak in the dining room. All other rooms are finished with yellow pine. The structure contains 57,000 cubic feet and the itemized cost, based upon local prices is estimated at \$8,000.

Design B 199

This attractive bungalow has a foundation of field rock and first story walls of dark red brick which forms a pleasing contrast in color and texture of material. The gable ends and dormers are finished in stucco. The porch is an interesting feature, there being no supporting posts for its roof. Large cantilever brackets attached to the house furnish the necessary support.

The vestibule has a coat closet and openings into the large living room with its beamed ceiling and fireplace. A cased opening communicates with the music room and a single door to the dining room. Pantry and kitchen are specially well arranged, the latter opening to the screened porch and outside basement entrance. A chamber with two closets and a toilet room complete the rooms on this floor. Above are two splendid chambers with alcoves, a bathroom and sleeping porch. Finish natural hard pine for first story. White enamel in all chambers and bathroom and hard pine floors throughout. Hot water heat. Size 30 feet by 40 feet. Architect's estimate of cost, \$3,700.

Design B 200

This design is one that will make a very complete and modern house. Passing through the vestibule and hall, one enters the sitting room, which is a very attractive apartment, with its fireplace and mantel with red pressed brick facings, its window seat and book cases on either side. A good sized pantry is provided and so placed as to be reached conveniently from dining room and kitchen. It is provided with two cupboards and a work table.

The bedrooms on the second floor are of good size and provided with large closets. Bath conveniently located off hall. Hardwood floors are provided for the main rooms.

There is a full basement under the house and hot air heating apparatus, cistern, etc. Exterior is intended to be shingled.

Width, 24 feet; depth, 36 feet; basement, 7 feet; first story, 9 feet 3 inches; second story, 8 feet 3 inches; lowest height of second story, 6 feet. Estimated cost, \$2,250.

Design B 201

The illustration for this design shows two views upon the same plate, thus affording a double opportunity for study of the exterior. Of stucco finish over tile construction, the house is of special interest. Admirably adapted to a city lot of small size the front is kept very simple with only a small hood over the entrance. The porch is located at the rear of the dining room where it not only affords privacy when in use as a dining porch, but commands the splendid view which is to be seen from this location. The living and dining room have beamed ceilings and the former contains a fireplace directly in line with the columned opening from the hall, with view of the stairway. There is a combination stair from pantry, and the basement stair from kitchen has a grade door opening upon the little service porch at the side. The second floor contains four chambers, two bath rooms and stair to attic, which is of good size. Finish of first floor English oak and natural birch. Second floor in

white enamel except hall in oak. Hardwood floors throughout. Hot water heat. Size 29 feet 6 inches by 36 feet 9 inches. The cost is estimated at about \$5,500.

Design B 202

The Dutch colonial style has a very picturesque effect which the designer has succeeded in portraying in this house. The white clapboards of the first story and shingles above are very pleasing. The terrace and columned entrance are somewhat imposing, while the French windows opening from living room and dining room give a very quaint effect. The other rooms of first story are pantry and kitchen nicely arranged, a pleasant staircase hall and a rear entry for refrigerator. The living room contains a fireplace and a beamed ceiling. The second floor contains four bedrooms and a bath; attic is unfinished, but would contain two rooms. Finish throughout is of birch and white enamel, with hardwood floors. Hot water heat. Size 36 feet by 24 feet. Architect's estimate of cost, \$3,500.

Design B 203

For various reasons it is often advisable to build a home that will meet the actual requirements and no more. This little bungalow is of that order, to accommodate two persons. The porch is deep and occupies the whole front. The living room contains a fireplace at its end wall from which one may see through the cased opening to the dining room with its large bay window, or into the bedroom. A bathroom of ample size and a clothes closet open from the bedroom. The kitchen contains a sink, gas stove, china closet and stair to basement, and is of good size. The finish is of birch and white enamel with hardwood floors. Stoves might be used for heat, but a small hot water plant is contemplated. Size 32 feet by 24 feet. The estimated cost is \$1,900.

Design B 204

This little bungalow is simplicity itself and with its setting of beautiful flowers and shrubbery, is a picture to be remembered. The living room is centrally lo-

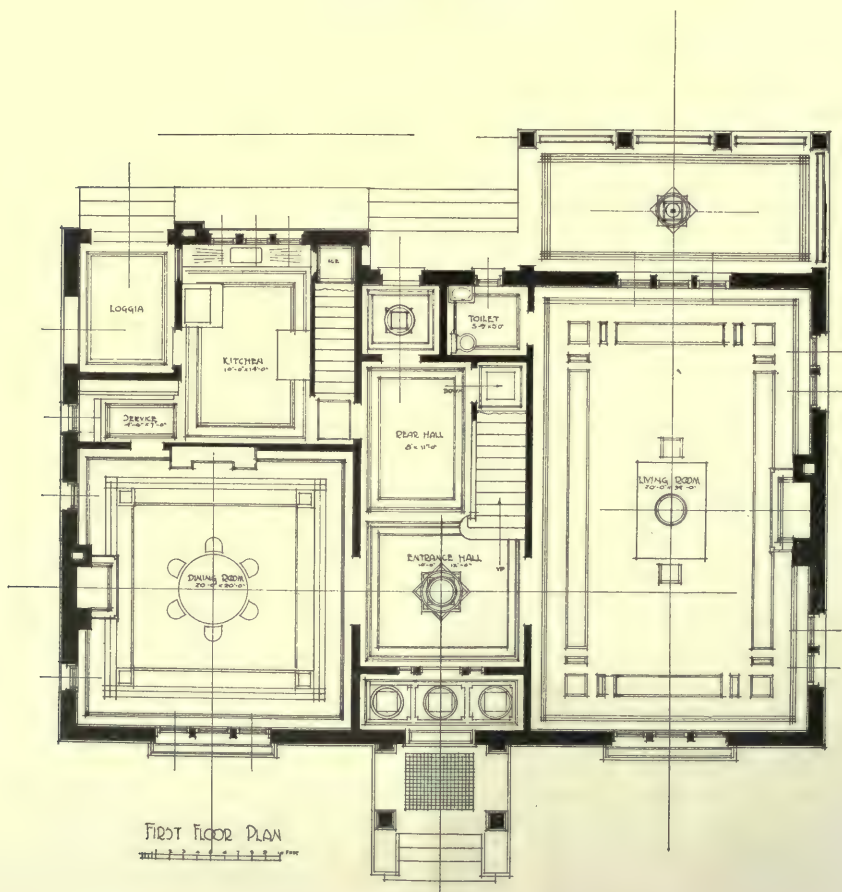


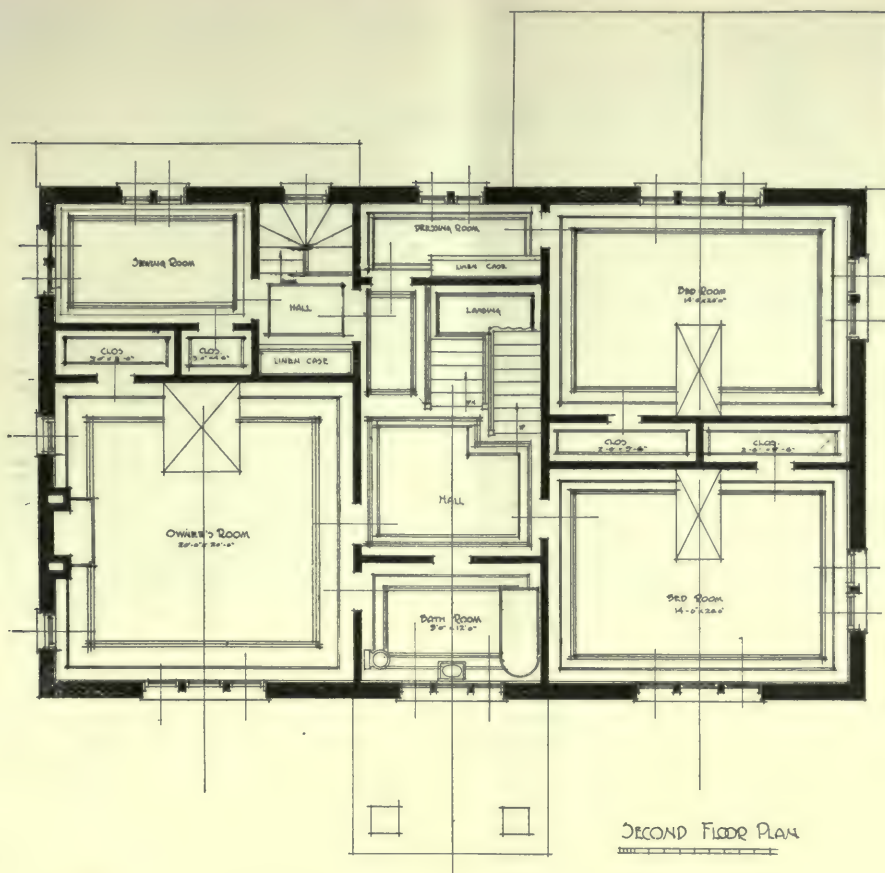
Courtesy of Universal Portland Cement Co.

L. T. BERGER, Designer

A Square House of Concrete

DESIGN B 198





DESIGNS FOR THE HOME-BUILDER—Continued

cated and contains a fireplace. The dining room is at the left and is served from the kitchen located from behind the living room. The two chambers are upon a private hall with bathroom and linen closet, making a very desirable arrangement. The basement and location of the kitchen fixtures are especially desirable for service. Ice box is located in the entry from which the basement stairs descend with a maid's room adjacent, containing clothes closet. The basement is 7 feet high and contains a small furnace. The finish and floors are of Georgia pine with the exception of the chambers, which are pine white enameled.

The size upon the ground is 40 feet wide by 27 feet deep exclusive of porch. For a small family desiring to keep a maid, this bungalow is especially attractive. With furnace and plumbing, it is estimated to cost \$2,625.

Design B 205

A Colonial house of moderate size. This design is only 30 feet wide by 22 feet deep exclusive of projections. Its details are of the Colonial order and are simply and cheaply carried out. The vestibule is a trifle cramped, but otherwise the first floor is excellent with its large living room with stair, fireplace and beamed ceiling.

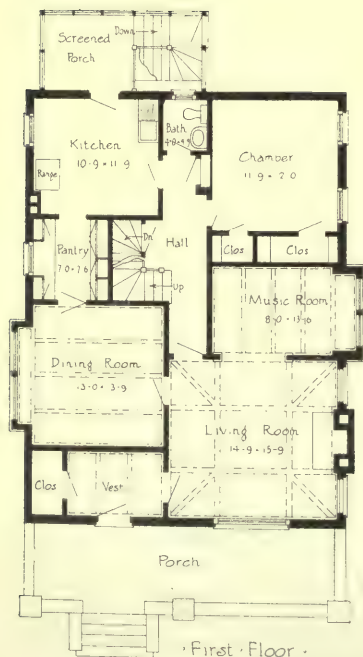
A back stair is provided in combination with the main stair, a grade entrance and stair to basement. On the second floor are three bedrooms with closets, a stair to attic and a bathroom. Attic space would make two good rooms and storage. Finish of first floor, natural birch and with mahogany stain. Second floor, white enamel and birch floors throughout. The basement contains laundry and hot water plant in addition to storage space. The architect's cost statement is \$3,100.



A. E. SAUNDERS, Architect

Bungalow of Field Rock and Brick

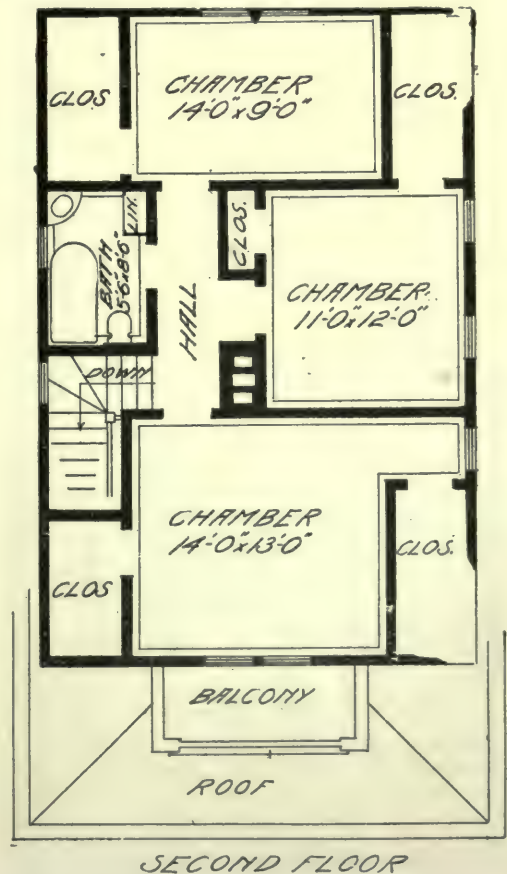
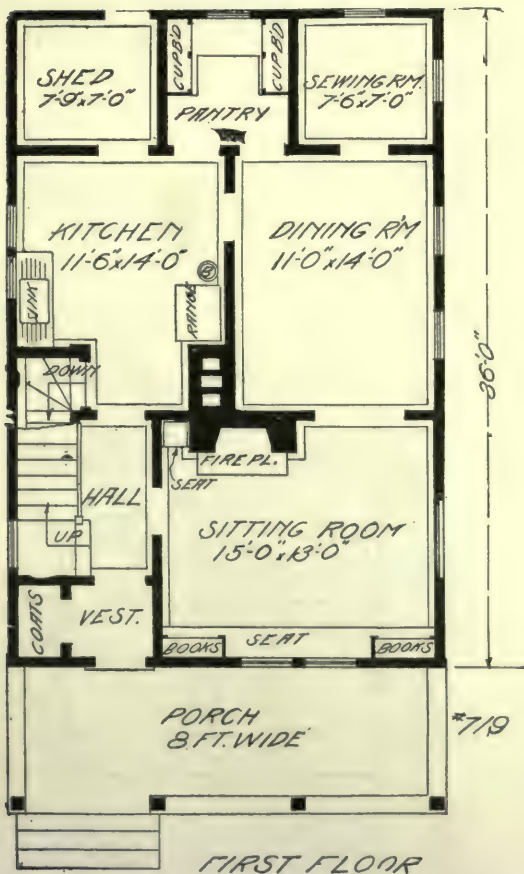
DESIGN B 199





A Pleasing Little Cottage

DESIGN B 200

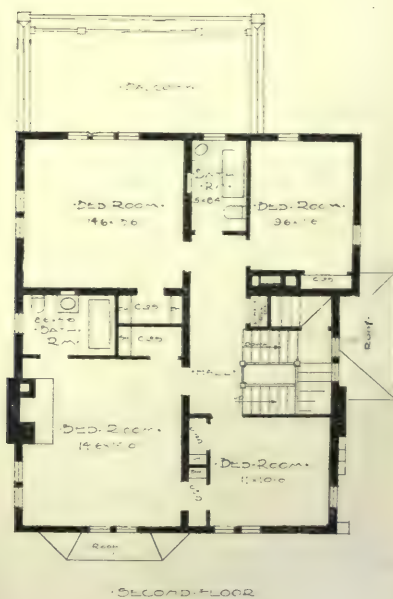
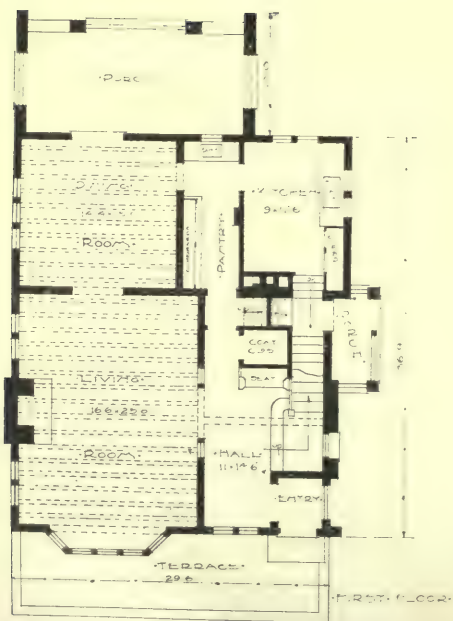




SQUIRES & WYNKOOP, Architects

A Duplex View of Cement House

DESIGN B 201

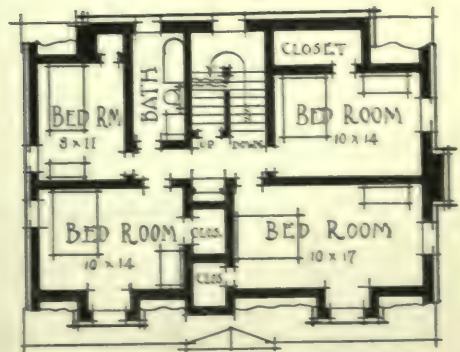
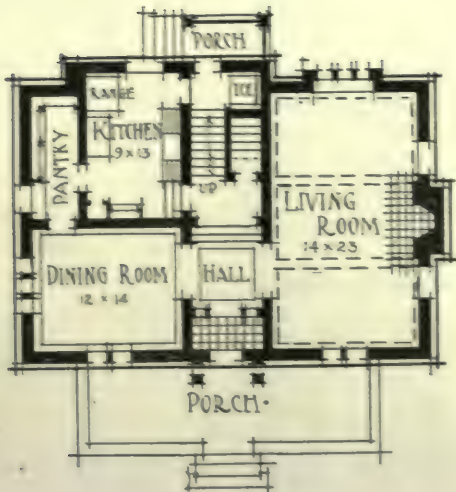




JOHN HENRY NEWSON, Architect

On Dutch Colonial Lines

DESIGN B 202

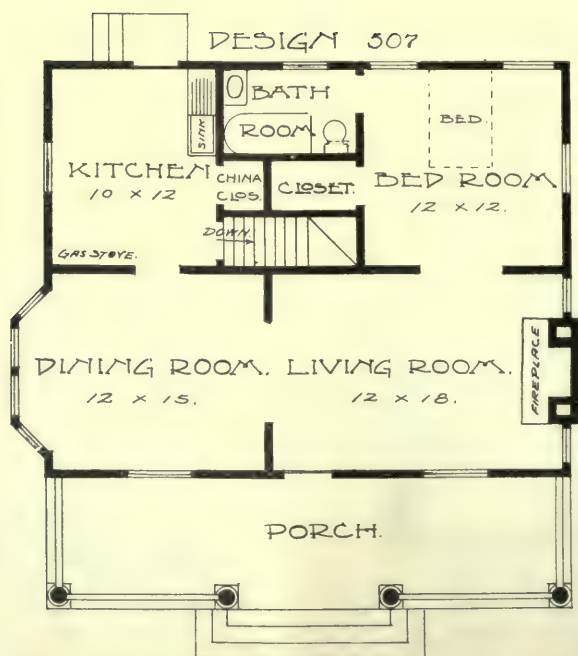




ARTHUR C. CLAUSEN, Architect

A Plain Little Bungalow

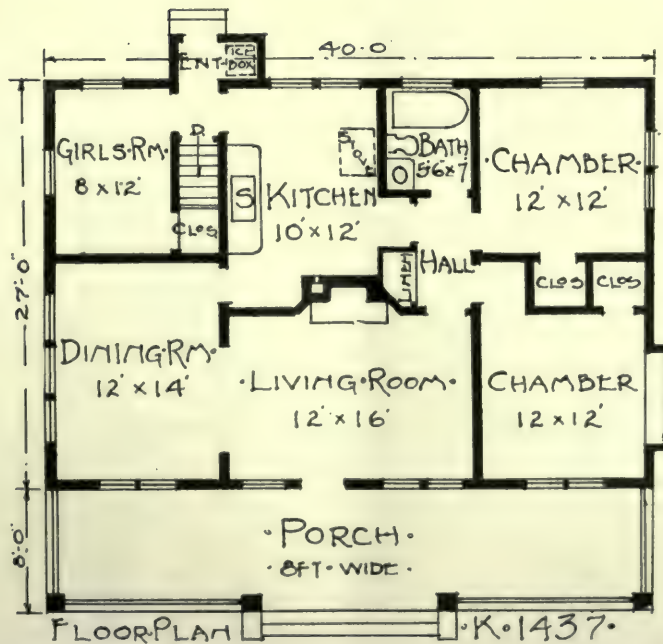
DESIGN B 203





A Mountain Valley Home

DESIGN B 204

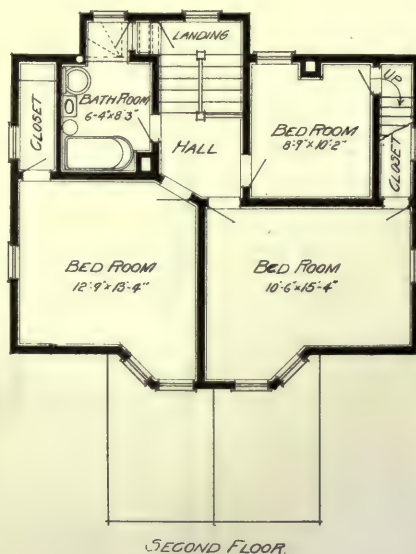
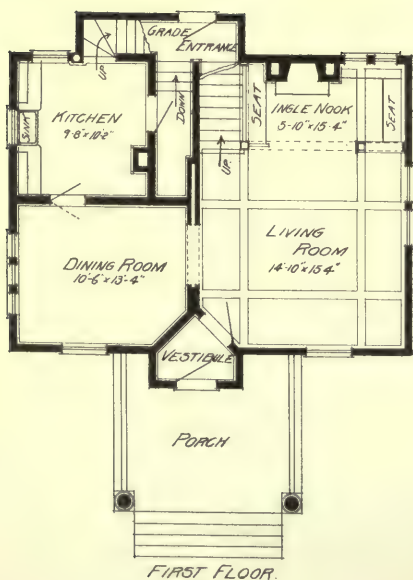




A. M. WORTHINGTON, Architect

On Simple Colonial Lines

DESIGN B 205



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Gordon-Van Tine Co., Davenport, Iowa.

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I received your check for \$25.70 some time back, covering an overcharge in freight.

Please accept my thanks for your honest treatment.

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Respectfully,

D. Whitehurst Md



Front View of Dr. Whitehurst's Bungalow

**Isn't This Good Evidence of
Dr. Whitehurst's Satisfaction?**



Interior View of Dining Room

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Side View of Bungalow

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My Lady's Den.

THE masculine den is common enough, but no man ever needed a sanctum half so much as the average busy woman. Some sort of a place of her very own ought to be the prerogative of every housewife, and in most houses should not be an unattainable luxury. A hall bedroom in a city house, the front end of a long upstairs hall, even a corner of the attic, any one of these has possibilities and might well be spared from the general use of the household.

A Desk and a Couch.

A woman's den ought to be primarily a rest room, a place for an hour's relaxation, and whatever else it holds it must have a satisfactory couch. Again it is a place for the transaction of one's intimate affairs and it must have a desk or a writing table. Other pieces of furniture may be desirable but these are essential.

Color Schemes.

In choosing the coloring for a room of this sort, bear in mind that anything which makes demands upon one's attention is out of the question. There are colors which "jump at the eye" as they say in French. The eye may respond with delight, but they are fatal to rest. Green is the restful color, par excellence, but low toned grays and browns are equally good, while for a sunny room a very grayish blue is always satisfactory. A two toned paper in a small pattern is better than a perfectly plain wall, as the latter needs a good many pictures to relieve it, and the den is not the place for much ornament. Once in a great while a tapestry paper, in verdure effect, is so well covered that it is practically a mono-

tone, but this is seldom, and most of them are hardly restful.

The Restfulness of a View.

No interior beauty makes up for an unpleasant outlook. David lifted his eyes to the hills and there is something at once resting and inspiring in contact with the peace of out-of-doors. In a city one must often forego any extensive outlook, but it is often possible to arrange a window so that it will frame in a strip of sky. A sash curtain is the common resort, but a screen with a fine vine trained over it, or a panel of teakwood carving, or of Turkish fretwork, inserted in the lower half of the window is far better. A box filled with tiny cedar trees has been used in the windows of apartments high up in the air, effectually shutting off the omnipresent chimney pots of a great city.

Where there is a landscape outside it is worth while accommodating it with a single paned window, opening out, casement fashion. The expense is slight, the satisfaction great. The casement window opening outward is not open to the many objections as to curtains and screens which apply to those which open inward.

The Door of the Den.

One essential to a successful den is a closable door. If the outside world can intrude upon my sanctum it ceases to be one. I may not care to close the door but I must have the power, and few families respect a portiere. But since, in a small room, a closed door involves an intolerable stuffiness a compromise is necessary and this is found in a half or three-quarters door, preferably the latter. The original door is removed and its

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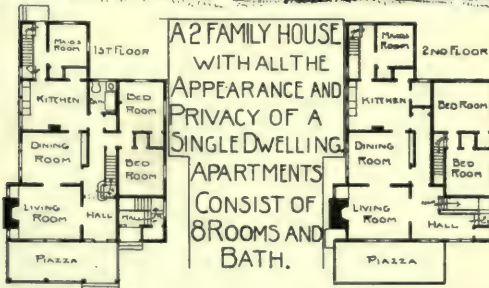
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make beautiful houses more beautiful, ugly houses attractive, and redeem commonplace houses. They are also cheap, easy to apply, and guaranteed fast colors; and they are made of Creosote, "the best wood-preservative known."

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George Nichols, Architect
New York

place supplied by a light framework covered with denim or cretonne, stopping a couple of feet short of the lintel. Sufficient current of air for ventilation is admitted, while the occupant is screened, and is able to hear any alarming sounds which may arise from the lower regions. If removing the door is not practicable, a circular or elliptical opening, like a ship's porthole, may be cut in its upper half, and answer the same purpose. Covering the inside of the door with cretonne, matching the furnishings of the room, is an effective way of disposing of the usually ugly shut door.

Dens I Have Known.

One den was at the porch end of an upstairs hall, and about eight feet square. Square posts, set close to the walls and supporting a simple arch, separated it from the body of the hall, making a different color scheme possible. The ceiling and a drop of three feet were a warm gray, putty color in fact. The side walls were a gray blue duplex ingrain paper and the color was repeated in darker tones for the velvet rug and the heavy linen curtains dividing it from the hall. Both rug and hangings were dyed to order. The rug was originally a very faded light colored carpet, and the hangings were made from coarse linen sheeting.

The principal articles of furniture were a six foot wicker davenport with a low back and broad arms, and a high backed grandfather's chair, both upholstered with a printed linen in a quaint Oriental design of birds and foliage. The same material covered a high screen and a low seat fitted into the embrasure of the French window. A high mahogany secretary and a sewing table of the sort called Martha Washington, completed the furnishings, except for a fern in a big cream colored terra cotta pot and two or three old steel engravings.

Another room was the attic of a sea-shore cottage, with a finish of unstained pine, one dormer window high up, another in the gable end. Only a part of the room was available as it served for a store room as well. A light wooden frame work was made shutting off the space under the eaves on one side and

carried around at right angles so as to leave a square space at the entrance of the room for storage purposes. This framework was covered with a cotton challie, in a Persian pattern of blue and yellow and cream, costing nine cents a yard. The space under the eaves at the other side of the room was filled in with bookshelves, their top on a line with the sill of the dormer window, the upper shelf projecting four inches beyond the others. A good cast of the Winged Victory and some pieces of green pottery stood on the top of the case, and just under the dormer window was set a box filled with green tradescantia, its sprays trailing almost to the floor.

This was a work room first, and held a capacious writing table, originally a swing top ironing table, stained green, with a high backed chair to match it, and an erection of pigeon holes above it. Hung across the other corner of the room, so as to command the view of sea and shore, was a navy hammock with many pillows of the Persian print besides its green denim covered mattress. There was a single rag rug woven of very wide strips in a combination of dark and medium blue, white and bright yellow.

Restful Green.

The last room was a hall bedroom, with a rather low window, happily set exactly in the centre of the front wall. The corners left at either side of it were cut off by doors of the height of the window, a simple panelling fitted in above them and the window, the whole being contrived from a number of dis-used doors. As the embrasure of the window was quite deep, the panelling below it was cut away and the space filled with two book shelves, the sill of the window making their top.

The ceiling and the side wall to the top of the door into the hall were kal-somined in a very light greenish yellow. The remainder of the wall was covered with natural burlap of the cheapest grade, cut into eighteen inch strips. These were nailed to the wall with overlapping edges, fastened with rather large ornamental iron nails, and the burlap was washed over with green dye, put on boiling hot with a wide brush. The pic-

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ROOM

ture moulding and the woodwork were painted a dull green a little darker than the walls. On a line with the hall door stood a box couch covered with a verdure tapestry in green and russet brown tones. Just beyond it, three feet from the wall, a portiere pole, four feet long, was fastened to the floor by means of a square piece of board. Near the top a brass rod set in sockets connected it with the side wall. The intervening space was covered with a strip of tapestry like the couch cover, stretched over the rod and nailed tightly to the floor, screening the couch from the hall when the door was open.

A rather elaborate writing table, black walnut, of Mid-Victorian date, was reduced to its first elements with a varnish remover, some of its excrescences removed, stained a warm brown and waxed. Besides the ordinary writing appliances, brass in this case, it held a lamp of greenish brown pottery with a

shade of dull green art glass. The desk chair and an arm chair of brown wicker had cushions of tapestry like the couch, and there were many in green and brown tones on the couch. Over the desk hung a number of framed photographs of intimates. Otherwise the walls were bare save for a large photograph, hung over the couch, of a Botticelli *madonna*.

Rugs of Moderate Price.

A day's search in the shops for a rug of moderate price is a discouraging experience. There are rugs galore of all shapes and sizes, but nine tenths of them are hopelessly ugly. If the design is decent the colors are harrowing and vice versa. And many rugs which look hopeful when seen pictured are impossible on a floor. When will some manufacture give us carpets for a dollar a yard, or less, in tones of dull olive, golden brown, orange red and gray blue, and in conventional designs of self tone? Whoever does will be hailed as a benefactor by many of the gentry of the short purse. In the meantime the most satisfactory rug at a low price is an Axminster, and the seamed ones are considerably cheaper than those woven in one piece. They are reasonably durable and they lie flat. There is one factory whose output is unusually good in color, and while many of their designs are geometrical they are not aggressively so.

One resort for the economically minded is the two-toned ingrain which comes specially for churches. It is largely red but there are terra cotta tones and some good blues and browns. A rug of it is much improved by having a heavy fringe of carpet thrums knotted into the ends. It should be laid over a lining and fastened down, at least with rug pins.

The Return of the Wooden Clock.

After many years of metal and marble, the wooden clock is coming to its own again. Most of the wooden clocks are in rosewood cases and very simple shapes. They are specially suitable for rooms with old mahogany furniture, ranging from ten dollars up. They are in far better taste than pretentious imitations of marble at the same price.



CHRISTMAS AND THE OPEN FIRE HAVE BEEN SUNG BY POETS IN ALL AGES.

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ANSWERS TO QUESTIONS ON INTERIOR DECORATION

Editor's Note.—The courtesies of our Correspondence Department are extended to all readers of *Keith's Magazine*. Inquiries pertaining to the decoration and furnishing of the home will be given the attention of an expert.

Letters intended for answer in this column should be addressed to Decoration and Furnishing Department, and be accompanied by a diagram of floor plan. Letters enclosing return postage will be answered by mail. Such replies as are of general interest will be published in these columns.

C. A. B.—“I intend to decorate interior of new house built last year. I enclose pencil sketch of floor plan.

“All woodwork, floors and furniture, are of oak, a little darker shade than golden oak, the floors somewhat darker than the woodwork. The walls and ceilings are finished with smooth white putty coat plaster, no beamed ceilings.

“The two front rooms are really one large living-room, 15x30, as they are only separated by a cased opening, with top oak ceiling beam, twenty inch pedestals, and short posts. The east portion, or reception, has coal grate with high oak mantel and mirror, open stairs, built-in book cases, leather couch, and heavy library table. Oriental rug, 9x12, of very dull colors, principally tan, old blue and brick red. Newel post has two brass bound lanterns, with green art glass.

“The west portion, or parlor, has piano and music cabinet (both rosewood), parlor table and balance of furniture oak, rug 9x12 of plain dull green, nearly olive green, with border scroll of tan and center piece circled with wreath of pale pink roses. Radiators and picture frames are of gilt. Gas and electric fixtures are alike in these rooms and are brush brass chandeliers, fitted with tulip design glassware of olive green shading off to cream, with black stenciled lines between each scallop.

“The dining-room, 14x16½, separated from front portion by sliding doors, has window seat in end, paneled to the floor, and built-in china closet, five feet high. The sideboard placed on north wall, between windows, with inverted gas lights on both sides, fitted with plain white glassware. The dome, 24 inches square, brass bound, top portions of amber glass, has five-inch rims with leaded sections of grape leaves, sea green in color, with

a bunch of grapes, full size, of deep garnet, in center of each rim. Dome is gas but has four electric bulbs in canopy at ceiling. This room has 9x12 rug with rich red center, border of old blue and tan, more Oriental than floral in design. A very warm bright looking rug.

“My idea was to paint the reception room and parlor pearl gray sides with pink stenciled border of either roses or chrysanthemum design, ceilings ivory, and the dining-room a deep red—probably tuscan or old red—with stenciled border of sea green grape leaves, matching the dome as much as possible, ceiling ivory. Please advise what you think of it. All of these rooms are so well lighted they can stand any kind of treatment.

“I did think maybe it would be well to match the fixtures in the parlor and reception room, which are olive green with black lines, but I do not like green so well on account of it not lighting up well at night.”

C. A. B. Ans.—In reply to your inquiry for suggestion would say, that your rooms are interesting but difficult to manage, inasmuch as they constitute practically one apartment, yet the two rugs described are so totally variant in character. Our advice is to use a neutral wall tint that will not clash with either and by no means to repeat the rose border of the parlor rug in a stencil wall decoration. Forget the roses and the scroll; in fact, if the rug were dyed to the color of the olive center, your rooms would gain greatly thereby. The pale pink rose border of your rug is quite out of harmony with the oak woodwork and furniture and the two rooms must be considered together. If the rug were dyed, then the pale olive wall—of which a very small sample is shown, would be in har-

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ANSWERS TO QUESTIONS—Continued

mony with it and not clash greatly with the Oriental tans and dull blues and reds. A conventional design could then be stenciled for a border, in darker olive with touches of red and blue. These flat-tone wall colors of the manufacturer whose name I enclose are the best thing I know of for such a finish as you desire on hard plaster. They also furnish very good stencil designs. Write them, for larger samples of these tints, also stencil booklet.

In the dining-room, your idea of the wall treatment is very good indeed, except that the grape leaves should not all be too pale a green. In fact, some should be rich and strong, on a band or background of plain, dull blue above the red wall. The above mentioned manufacturer's Oriental blue 844 and Pompeian Red 823, would be an excellent choice for this wall.

J. S. A.—We are building a new house, and are in doubt about two questions.

The house will be painted all white with moss-green roof and porch floors. It is necessary to screen here. What color should screen frames be painted? How could a group of casement windows be curtained, or draped? My room is golden brown, in furnishing wish to have a touch of green.

Ans. J. S. A.—In reply to your inquiry will say, that the frame of the window screens will be best painted black. As to curtaining of casement windows, it depends on whether they swing inside or outside. If the former, then small rods can be placed at the top of the glass on the sash. If the windows open out, then you can only put drapery at the sides of the casings or a short valance across the top. The valance can be used together with side draperies or without them.

J. C. R.—I am building a residence and ask suggestions on wood-finish. I enclose stamped envelope for reply. House faces east; stands on corner, with side face south; two tall maple trees very close to house, northward, 6 to 8 ft., making shade and decreasing light on north; these trees are 35 to 40 ft. to very top; more trees southward as 25 to 30 ft. high, but are 15 to 25 ft. away. Now, what I

want is suggestions as to oak finish and harmonious tints for wall paint. House is two-story and basement; first floor will have four forward rooms, to be finished in oak, hall, parlor, dining and sitting-rooms. We want suggestions as to way to finish the oak, antique and mission seem rather dead and the natural seems light. Is gloss or dull finish preferable? As to light, streets are wide and this is only house on the block. If we leave the oak in natural color, what would you suggest as suitable tints for the walls of several rooms? They will all have large windows. We plan to put linoleum on dining-room floor, but all the other three shall have oak floors. Ceilings are 9 ft. 2 inches or 9 feet 4 inches; sizes are: hall 11x16; parlor 13x16; sitting-room 9x14; and dining-room 15x16; that is, front wing is 24x16 and middle part 34x14. We plan to paint walls of rooms. If you suggest other finish than natural oak, suggest wall tints.

Ans. J. C. R.—In response to your letter of recent date asking for suggestions on wood finishes, desire to say that since you wish to paint the walls, we know of nothing so good for such a finish as flat-tone paints for interior walls. You best send for manufacturer's color samples under that head. We will, however, indicate the colors that would be best in our judgment.

The oak woodwork should by all means receive a stain and not be finished natural. This stain need not, however, be dark. It is advised to use brown oak stain in the rooms mentioned, except in the parlor and there to use silver grey on oak. Since the hall and dining room have a north facing and are further shaded by the trees, it is suggested to paint these walls the flat-tone labelled buff stone, with ivory ceilings. To make the sitting room wall bright sage with lichen gray ceiling and the parlor wall pale azure with ivory ceiling. Then, if cretonne hangings and furniture coverings in pastel shades of rose and duller, darker blue are used in the parlor, you will have a very charming room. Of course the plain printed walls could be relieved in dining room with a decorative stenciled or paper frieze.

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The Christmas Worry.

THE beneficent arrangement which provides that the Christmas number comes out nearly a month before the day, enables the writer to say a word in season in deprecation of the tendency to make the Christmastide a time either of restless hurry, or of an unacknowledged commercialism, a sort of barter and sale masquerading under the guise of love and good will.

It is no excuse for the degeneration of Christmas that most of us are perfectly unconscious of our real attitude. One of the pressing duties laid upon us in this hurrying age is that of occasionally stopping to think, of being for some small fraction of our time quite honest with ourselves. Only by the exercise of the power of mental concentration which, in greater or less degree, all of us possess, is it possible to escape being mentally and morally swamped by the surge of demands which claim our time and our energies. And it can be employed in no better way than by a little definite thinking on the subject of Christmas giving.

Affection and Benevolence.

At the root of all the kindly impulses of life lies one of two motives, affection or benevolence. Affection is concerned with those closely bound to us by the ties of kinship or friendship, and its expression is spontaneous. Affection is so much a matter of impulse that it takes care of itself. Benevolence is concerned not with the friend but with the neighbor. "Who is my neighbor" is a question as old as the Gospel, but the an-

swer is always the same. My neighbor is the one nigh at hand who needs me. He is outside the circle of my affection, but he claims my passive good will, my active kindness. I may, nay must, reserve my affection for my own, but he has a claim upon my benevolence.

Benevolence and affection, then, are the motives of our actions as they concern others, and they should direct our observance of Christmas. Our own and the needy should be remembered. If, after they have been thought of, there remains a surplus of our abundance, it may well be claimed by some charity, rather than be spent in the meaningless exchange of trifles with people who have no real claim upon us.

For, after all, it is this latter sort of giving which makes Christmas a nightmare. One knows fairly well the tastes and habits of one's intimates. Most refined people can minister to the needy without giving offence. But who shall adequately picture the boredom of choosing gifts for the people whom one neither knows nor loves, whose preferences are a sealed book to us, whose only claim to remembrance is their problematical giving to us?

A Simple Christmas Dinner.

Here are two or three menus intended to meet the wants of the servantless house, equally adapted to that served by a single maid who demands a part of the festal day as her right. They have been compiled with a view to the preparation of the greater part of them the day before, and therefore vary somewhat from the accepted standard of the holiday dinner.



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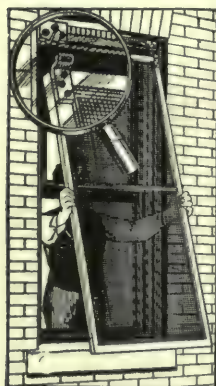
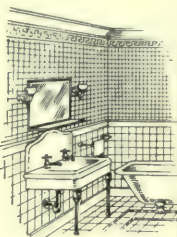
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Plum Pudding, Brandy Sauce,
Coffee.

III

Cream of Celery,
Oysters scalloped with brown bread
crumbs,
Roast Turkey, Sausage Stuffing,
Celery, Spaghetti,

In the first of these menus the soup is made by adding a pint of hot milk and a pinch of soda to a can of tomato soup. Most of the canned soups require an addition of butter and a little salt. In addition to the croutons grated sharp cheese may be passed with the soup.

The pastry cases of the second course can be bought in a great variety of shapes and sizes, only requiring to be heated. Make a pint of cream sauce, saving part of it for the onions. To the remainder add the beaten yolks of two eggs, lemon juice and paprika. To this add the oysters cooked in their own liquor, and fill the cases just before serv-

ing. Roast beef and Yorkshire pudding need no comment, but the jelly may be gooseberry or plum, rather than the customary currant, or cranberry. The Waldorf salad is a combination of apples, celery, nut meats and mayonnaise, served in hollowed out red apples.

For the caramel custard, fill sherbet glasses two-thirds full with a rich baked custard flavored with wine or rum, and add the remaining third of caramel syrup. The coffee may be served in the living-room a few minutes after dinner.

In the second menu the creamed fish may be served in any sort of small stoneware baking dish, if the regular ramekins are not attainable, or in a casserole. The turkey should be boiled very gently for several hours the day before, allowed to cool in the water and reheated. A pint of the liquor is cooled and the fat removed, and thickened with browned butter and flour. A small can of mushrooms is added to it half an hour before dinner. A part of the creamed sauce made for the fish may be used for the cauliflower instead of Hollandaise, the dish to be finished with a thick layer of grated cheese and another of crumbs, and browned in the oven. If this is done serve plain crackers or bread and butter with the salad.

Instead of the conventional plum pudding, one may have frozen plum pudding, a rich chocolate custard into which seeded raisins, candied peel, citron and nut meats have been stirred, and the mixture packed in ice and salt for several hours, with an occasional stirring.

In the third menu, the celery soup is served with a spoonful of whipped cream in each plate, the oysters are scalloped in individual dishes, the use of brown bread giving an unusual flavor. The dressing for the turkey is the usual one of highly seasoned bread crumbs into which thin slices of cooked sausage are mixed. The materials for the jardiniere salad come already mixed in cans, or glass jars. The noisette bomb is a melon or other circular mould lined with vanilla ice cream, the center filled with any sort of cream containing nut meats, maple or caramel. After being filled the mould is packed in ice and salt to refreeze its contents.

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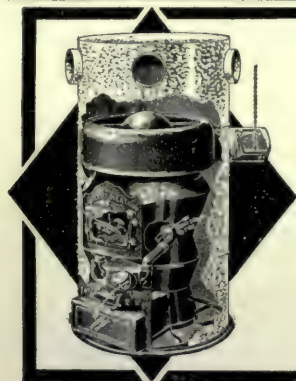
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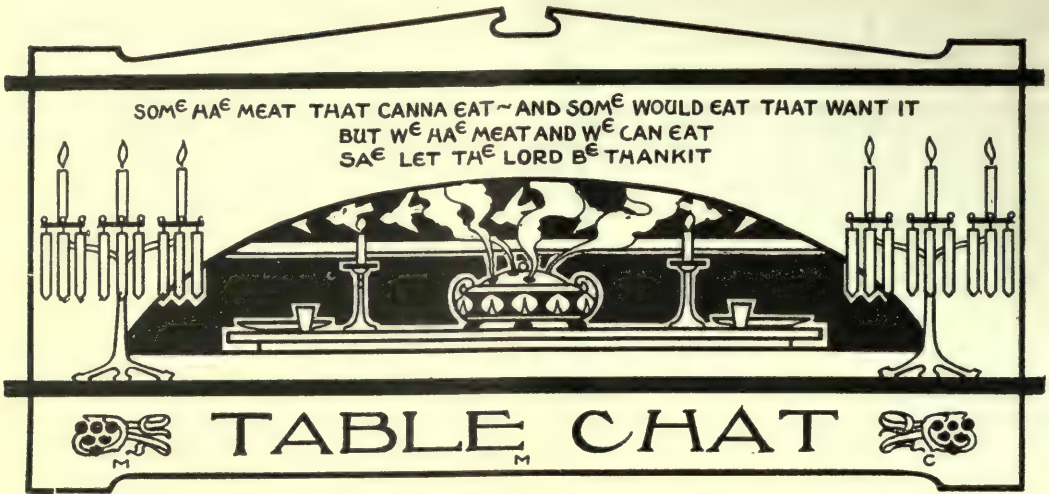
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The Christmas Table.



OWEVER appropriate greenery is as a decoration for the Christmas table, it is apt to be a bit mussy. Table adornments are distinctly out of place when they are untidy. So it is quite as well to abstain from wreaths of laurel or holly, except to encircle the platter on which the plum pudding makes its entrance. The Christmas dinner too is apt to be served entirely on the table and every inch of space ought to be available.

A decoration which is "Christmassy" enough to please even the children is a small cedar tree, not more than a foot and a half high, planted in a mound of moss. The moss is arranged over a heap of earth on a circular tray, the edges hidden by sprigs of holly, and a lace centerpiece used. Then at the corners are glasses holding a few roses, or carnations, whichever are most attainable, or accord best with the china.

In the Japanese Manner.

Your Japanese man servant may have his demerits, but he is strong on table decorations, and one is quite safe in leaving him to his own devices. His results are never fussy and are sure to be in good taste.

At a party supper served by a Japanese butler, on the bare mahogany table, three-branched silver candelabra stood at either end, with yellow and silver shades. In the space between them a rather narrow lace runner was laid diagonally, and the triangular places left at

either side of it held low silver bowls of yellow roses, set on circular doyleys. At another time runner and doyleys were laid over gray green silk, a very pale shade, the candle shades were silvered over pale green linings, and the flowers Chinese lilies in flat green dishes.

Chinese lilies, by the way, are satisfactory for a centerpiece, that is if one can make them grow at all. Various receptacles come for them, but they are at their best in blue china, either a plain deep blue, or some of the darker pieces of blue and white. The Chinese laundry men often have them growing in unusual pieces of pottery, which they can be persuaded to sell. Oriental wares out of the common do not usually appeal to the retail dealer, particularly when they are of the cheaper sort.

After Dinner Coffee in the Living-Room.

The after dinner coffee habit is an excellent one. The quantity of coffee taken is not enough to make one sleepless, and the fillip to digestion is a good thing. It is a pleasant fashion, especially if the family is large, to serve it in the living-room, instead of at the dinner table. If there is company, the cup of coffee bridges over an awkward interval, if not one may linger without delaying the clearing of the table. The coffee tray should have its own tabourette set beside the hostess. While nothing is any more desirable than a silver coffee pot, there are some charming services in porcelain with an incrustation of silver deposit. These are usually in delicate col-

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Keith's, Dec., '10.

TABLE CHAT—Continued

ors. Silver deposit seems to be more and more popular and its scope is constantly enlarging. Its first developments as an application to colored vases, either green or blue, seem a long way off and very inferior in every way to the recent combinations with plain white glass.

The Christmas Cake.

Fruit cake sounds mysterious to a great many people who think of its confection as complicated, its cooking as difficult. As to the former there are numbers of good rules in the cookery books, or one can evolve one for one's self, remembering only that it is, in its last analysis, a pound cake with a great deal of fruit in it. It is best made with the dark brown sugar which comes specially for the purpose and the spice will give the necessary color. Ten eggs to the pound of butter will raise it sufficiently, although twelve are supposed to go to a pound. Its goodness depends very largely upon the thoroughness with which the butter is creamed and mixed with the other ingredients. Its texture will be a little finer if the creamed butter is worked into the flour, the sugar beaten into the eggs. As for fruit there can hardly be too much of it, but should always include a small proportion of candied orange peel.

The baking is best begun in a steamer, keeping it there five hours, finishing it in the oven for about an hour, or long enough to brown it. It is better to cool the cake thoroughly and cut it into sections before icing it, as only a small part need be cut at a time.

A section of fruit cake is an acceptable present to the single man of your acquaintance, whom you would like to remember. Get a box covered with holly paper, line it with parafine paper, and fit a section of cake to it. Ice the top and sides, slip it into the box, cover it with a wad of paper and tie the cover in place with scarlet satin ribbon with a sprig of holly.

Something which the man who boards has been known to appreciate highly is two or three jars of home made pickles, or a glass jar filled with delicate cookies. Things like these are the equivalent of the flowers which any man may send to any woman.

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The Low Type of Bungalow.....	Sept. 1910
A Ten-Room Country House.....	Aug. 1910
A Dutch Colonial House.....	Aug. 1910
A New Lath for Stucco Work.....	July 1910
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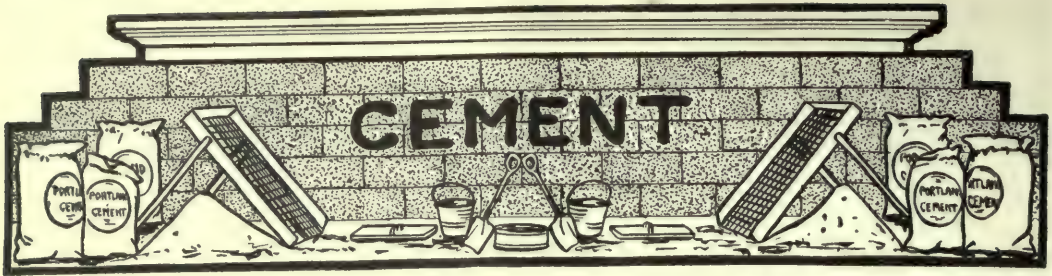
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Carefully Selected Building Subjects, by the Editor, from Stock

KEITH'S MAGAZINE
ON HOME BUILDING
MINNEAPOLIS, - - - MINNESOTA



The New York Cement Show.

OF THE many trade shows that are held at the present day, there is none that should be of interest to a larger class than the cement show. The architect, the contractor, the manufacturer, the home builder, the farmer and the mechanic all have a real call to attend. Not only is there something of interest for each, but his attendance will be to him a distinct business advantage.

The architect of today who has not specialized in concrete, oftentimes thinks in terms of his older construction materials. He may realize that with a new material, come new possibilities in design or texture. He may gain this knowledge by talking with other men who are engaged in the same line. The cement show offers a meeting ground to this class.

The average man at some time of his life builds a home. He has his ideas as to what it shall be. He gives his architect general instructions in regard to materials and type, but it is just at this point that he needs additional knowledge, if he is to use cement to advantage. He has grown up with construction in wood and brick and stone, but unless he has been especially fortunate, he has seen little actual building in concrete, so that in his choice of architectural style, of the type of construction and the materials to be used, each of which has its bearing on cost and utility and durability, he has not had the experience with cement construction which is his with the older types of construction. The Cement Show offers the facilities for putting him in touch with the newer concrete construction.

Madison Square Garden, the old historical show building in New York City, will not appear like a noisy and dirty contractor's plant. On the contrary, it

will be a neat and orderly department store of the cement industries, offering during the week's exhibition an opportunity which should be most acceptable to those desiring to make a study of any phase of the use and application of cement. Cement, aggregates, reinforcing systems, waterproofing methods, concrete mixers, concrete tile, block machines, coloring compounds, forms, ornamental concrete work and a complete representation of every article and appliance entering into the use of cement will be displayed. The show will be orderly and artistic in the best sense. Every possible effort will be made to make the exhibition as attractive as it is possible to make a show of this character. Two hundred and fifty exhibitors will have displays of vital interest to the trade. For the general public, the show will possess many points of educational value; for their entertainment, the feature of the show will be the music of Sousa and his Band, engaged by the Cement Products Exhibition Co., at a great expense.

To those who have not traveled during the summer, the special rates to New York during the Cement Show and the cement gatherings, offer a special inducement at this time. Railroads are averse to giving special rates, but the magnitude of this gathering has made it possible to obtain some special concessions.

While the New York Show is the first to be held in the East, its success is assured. The space on the first floor is entirely contracted for. The space in the galleries is fast going. Concrete construction is as important in the East as it is in the Middle West. Three shows have been an entire success in Chicago. The one in New York promises to eclipse the former records.



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Reduced Rates to New York Cement Show.

On account of the Annual Convention of the National Association of Cement Users which will be held in New York during the Cement Show, December 14-20, the railroads in the Trunk Line Association, the New England Passenger Association and the Eastern Canadian Passenger Association, have made a reduced rate of a fare and one-half from all points from which going tickets are seventy-five cents or more.

Going tickets with certificates may be purchased not earlier than December 9th, and not later than December 19th. On the return trip, reduced rate tickets are good up to and including December 23d. In going to New York, full fare must be paid and the agent must be asked for a certificate. Upon arriving at New York, the certificate must be presented at the office in Madison Square Garden for validation, for which a fee of twenty-five cents for each certificate will be charged. This certificate will then entitle the holder to a return ticket at one-half the regular fare. Be sure to request a certificate when buying your ticket.

Placing Concrete in Freezing Weather.

Freezing weather means trouble to the concrete man, unless he takes the right kind of precautions. Albert Moyer, an expert in concrete, makes these suggestions. They have been published before, but they are timely and seasonable just now.

There is a doubt in the minds of a number of well-known chemists as to the action of salt on concrete. Whether it is injurious or not, there is always some likelihood of efflorescence resulting after the concrete has thawed and warmer weather sets in. Therefore, I would suggest the following method of placing concrete in freezing weather, the thermometer not to be below $+20^{\circ}$ F.

If a machine mixer is used, mix and place immediately one batch at a time. If hand mixing is used, do not mix over a two-bag batch and place immediately. Heat the sand and stone by piling over a sheet metal arch or a large cast iron pipe, building the fire under the arch or in the pipe, the pipe to be tilted so as to

form a draught. Heat the water as hot as possible in a kettle, or use water from a steam boiler.

The action of hardening is thus stimulated and the concrete will not cool before it has set hard. If the weather continues below freezing leave the forms in place until the temperature is above $+40^{\circ}$ F., the action of crystallization will then continue.

The Weight of Cement.

A correspondent asks: "Does one cubic foot of your cement weigh 100 pounds or more? When I mix it with sand and stone, can I take one sack for a cubic foot or should I measure it out?"

The weight of any cement is governed very largely by the manner in which the weight is determined and, therefore, the test of the weight is an uncertain one and one which is seldom used. Everything else being equal, a finely ground cement will weigh less than a coarser one, first, because any material in the mass form weighs more than the same material broken up into small particles, owing to the fact that it is physically impossible for the particles to pack as closely as they were in the original mass. Second, the particles of cement when reduced to a fine powder, have a tendency to entrap air when entering a receptacle and the air is not entirely eliminated until the material has remained undisturbed for some time. For example, the height of a load in a car changes materially between the mill and destination of the shipment. The height of a pile of cement in a warehouse reduced rapidly the first few days in storage.

Cement to be used should never be removed before the quantity should be determined by weight. For convenience it is recommended that one sack of cement containing 94 pounds net should be taken as one cubic foot.

These statements apply to any first-class Portland cement.—Contract Record.

The Soap and Alum Waterproofing Process.

Summing up the remarks of Prof. Ira L. Baker, in this connection, when alum and soap are used as waterproofing for concrete the alum in powdered form may



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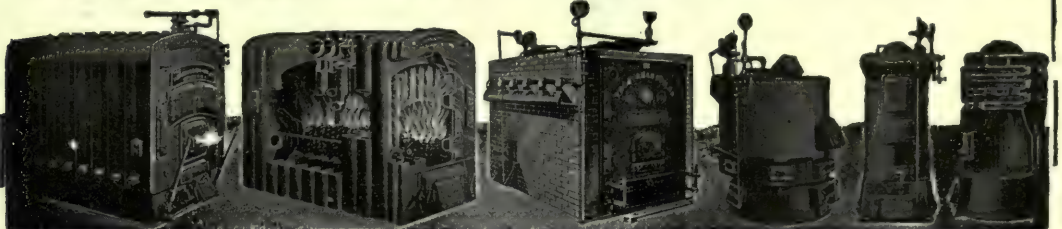
Without it rain and dampness are sure to penetrate, causing damage and unsanitary conditions. Petrifax waterproofs the exterior. It consists of a mineral base, which is carried into the pores of the cement by a volatile liquid, which evaporates quickly, leaving a hard yet elastic surface that will not crack, chip nor peel, even under climatic changes. To cement and stucco it gives a uniform and pleasing color that these materials themselves never have, and without destroying their texture. Let us tell you more about this successful waterproof coating. We are always glad to answer questions. Ask for Booklet.

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be mixed with the dry cement or the sand, and the soap may be dissolved in the water employed in mixing the concrete; or both the alum and the soap may be dissolved in the water. The former is probably the safer method in practice, since with the latter method the water must be thoroughly stirred while the two are being mixed or the precipitate may form in large masses which it is practically impossible to break up; and, further, the water must be kept stirred to prevent the compound from accumulating on the surface. However, the alum is more easily dissolved than the soap; and hence the alum may be dissolved in, say, one-fifth of the water, and the soap in the remaining four-fifths, and then the two portions may be mixed together. The alum and the soap combine and form a finely divided, flocculent, insoluble, water-repelling compound which fills the pores of the concrete and decreases its permeability. The best proportions are: Alum one part and hard soap two parts, both by weight. Soap varies in its chemical composition, and hence a single proportion cannot be stated which will be chemically exact for all cases. The above proportion is in round numbers the relative combining weights of alum and average hard soap. Any reasonably pure soap will do. It is difficult to dissolve more than about 3 per cent of hard soap in cold water; and hence this practically limits the amount of alum to .5 per cent and of the soap to 3 per cent. These amounts will give a precipitate equal to about 3 per cent of the weight of the total water. The amount of precipitate formed in the pores of the mortar or concrete will depend upon the amount of water used in the mixing.

Fortification Draftsman.

December 7-8, 1910.

The United States Civil Service Commission December 7-8, 1910, to secure eligibles from which to make certification to fill vacancies as they may occur in the position of fortification draftsman. The usual entrance salary for this position is \$1,500 per annum.

Applicants who do not indicate that they have had sufficient training and experience to entitle them to a rating of at

least 70 per cent in that subject will not be admitted to the examination.

A rating of 70 per cent in the subject of training and experience will be given to applicants who furnish prima facie evidence of having had not less than three years of experience in engineering construction or other similar work, or in drafting in connection therewith, or both.

Applicants should at once apply either to the United States Civil Service Commission, Washington, D. C., or to the secretary of the board of examiners at any State Capitol for application and examination Form 1312. No application will be accepted unless properly executed and filed with the Commission at Washington prior to the hour of closing business on November 26, 1910. In applying for this examination the exact title, as given at the head of this announcement, should be used in the application.

Cartographic Draftsman (Male.)

December 7-8, 1910.

The United States Civil Service Commission announces an examination on December 7-8, 1910, to secure eligibles from which to make certification to fill a vacancy in the position of cartographic draftsman at \$3.84 per diem, Naval War College, Newport, R. I., and vacancies requiring similar qualifications as they may occur in any branch of the service, unless it shall be decided in the interest of the service to fill the vacancy by reinstatement, transfer, or promotion.

Only men applicants who have had experience in hydrographic surveying or drafting will be admitted to this examination.

This examination may be taken at any place at which it is held, regardless of the residence of the applicant.

Applicants should at once apply to the United States Civil Service Commission, Washington, D. C., or to the secretary of the board of examiners at any State Capitol for application and examination Form 1312. No application will be accepted unless properly executed and filed with the Commission at Washington prior to the hour of closing business on November 26, 1910.



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Concrete Construction about the Home and on the Farm	Free
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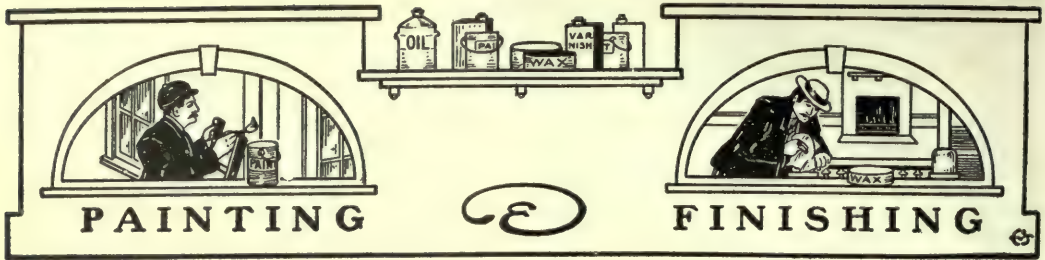
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Practical Suggestions.

IO make a paste for painted walls add one ounce of powdered rosin to a gallon of rather thin paste, made in the usual way. Set paste on fire and stir until it boils and thickens; when cool thin paste with a weak solution of gum Arabic.

To clean a painted wall, dissolve two ounces of borax in two quarts of water, and add one tablespoonful of ammonia. Use half of this for each bucket of water, and do not use any soap. Clean a small amount of surface at a time, and rub dry with a clean cloth.

To remove ink stain in mahogany, dissolve one ounce of oxalic acid in one-half pint of soft water, and the addition of one-half ounce of butter of antimony will make it still more effective, removing almost any kind of stain in wood.

To remove marks made by scratching matches on paint, take a lemon, cut in two, and rub the mark until it goes. If this does not remove it perfectly, then follow with damp whiting, or even with white soap and water.

Here is a wall size that will answer where the wall is bad and needs a special preparation: Mix together equal parts of brown sugar, white glue, ground crystal alum and water. The glue must be soaked in cold water over night, then the water must be poured off and hot water added to melt the glue; the alum must also be dissolved before being added to the other ingredients. Stir all well together.

If glue size curdles when you add the alum it is because there is acid in the glue, for acid is used in cheap glues to bleach them. A remedy consists in soaking the glue over night in clear water, which will draw out any possible acid.

To thin 100 pounds of white lead in

oil for last coat use a little less than five gallons of raw oil and from a pint to a quart of liquid driers. Zinc white will take nearly three gallons more oil than the same quantity of lead, and twice as much driers.

To stain hardwood in imitation of ebony wood, give two coats of nigrosine black, and fill with a black filler. Sandpaper smooth, then apply a coat of ivory black ground in japan; when dry, varnish and polish.

To make paint to adhere to copper, wash the copper with a solution of copper sulphate, adding a little nitric acid. This will matt the surface enough to afford a tooth for the paint to adhere to. Make the paint sharp with turpentine.

Some genius has been advertising that he will tell the brethren how to clean up dirty gold lettering on a sign, for a nominal charge. Washing off with a diluted sulphuric acid will do the trick. Also, if your gold leafing shows up tarnished, try the same acid treatment, to restore the luster.

Cement is not fit to paint on under, say a year's exposure to the weather, when it may be cleaned off and painted as you would any wall surface. For fresh cement surface, size first with acid water, made with 12 ounces of sulphuric acid to the gallon of water. For a surface that has stood the weather for a few months, use two ounces of bicarbonate of ammonia to the gallon of water.

A very good home-made oil filter requires only two cans and a supply of cotton wicking. The cans are placed on different levels, and the upper one filled with the oil to be filtered. The cotton wicking is saturated with clean oil, and is suspended over the edge of the upper can, forming a capillary syphon. The end of the wicking should be allowed to touch, or lie on, the bottom of the upper



A Lead-Sheathed House

When you trudged off to school back in the good old days do you remember the books you used to carry, all held together with an old skating strap?

If you recall these books you will also remember how each of them was covered with some tough material put on by loving hands at home. The owner of those loving hands knew too well the hard knocks and rough usage those books would receive on their way to and from school. That is why some tough material was used to protect them.

This sense of protection often is the one that prompts us to paint our houses. We want to protect them from the knocks and hard usage of climate and time. And like your school book covering this protective coating should be strong and durable.

How would a METAL sheathing do for your house?

Don't you think that would protect it from the assaults of sun, snow, rain and sleet?

That is what pure white lead and linseed oil is—pure metal lead corroded into a white powder and mixed with linseed oil and this LEAD sheathing will protect your house as no other paint material can.

As much care should be used in selecting the protective covering for your house as in the selection of the building material that goes to make your house.

Tell your painter you want your house white-leaded—Dutch Boy white-leaded. That means he is to use pure white lead with the Dutch Boy Painter trade-mark on the side of the keg. That is the sign of absolute purity in white lead and the white lead must be pure to be good.

Any tint—any shade.

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can. The capacity is only limited by the size of the cans and the number of wicks used.

A filler for iron castings may be made thus: Take by weight three parts of stiff keg lead, five parts of black key-stone filler, two parts of whiting, and five parts of pulverized silica, which make into a stiff paste with a mixture of one part each of coach japan, rub varnish, and turpentine, all by measure. Add lampblack if not dark enough. Use like a putty for holes, etc., and thin with turpentine for use as a surfacer or paint. Sandpaper smooth, and apply as many coats as desired.

White paint does not cover well on yellow pine, and yet a good job may be done with only two coats if one part of pure pine tar be added to seven parts of oil and the wood be primed with this. Rub it well into the wood. Then follow with a thinnish coat of white lead paint, adding a little black to give it a grey cast, so as to cover up the pine wood, and it should be well brushed out. The next and last coat may be made a trifle stouter than the first and have no color added. Too heavy paint will blister on yellow pine woodwork. Use as little driers as possible.

Kalsomining.—One coat of good kalsomine is enough for any ordinary job, and nothing is gained by putting on two coats, as a rule. Where two coats are given there should be a coat of alum size applied, to form a surface that will make it impossible for the second coat to rub up the first. The best condition for the kalsomine to be in when applied is in the jellied state, and whether you use hot or cold water, let the mass get cold before using it. And the room should be cool, rather than warm.

Blistering and Peeling of Paint of Frame Houses.

One of the complaints occasionally met in connection with the painting of frame houses is that the paint blisters and peels from the outside of the buildings—in some cases peeling clear to the wood. This is attributed in a measure to bad priming and painting when the wood is green or damp, and in some cases it is

found that ready-mixed paints applied by inexperienced workmen cause a great deal of trouble to the man who does the repainting. A correspondent, writing to the Painters' Magazine, asks the best way to avoid this blistering and peeling when the old painted surface is done over with good material by practical and experienced hands. He says he is burning off all the blistered paint, but is afraid he may have trouble with the balance where the paint appears to be in good condition.

In reply to the above correspondent the authority in question says:

We fully agree with you that much of the blistering and peeling is due to green or damp wood and inferior material for priming. The old-fashioned notion that anything is good enough for priming is still in the minds of many, but it is like building a house on sand without piling. Boiled or fatty oil has no place in a priming paint for wood nor should a priming be stout.

There is nothing better than pure lead and well settled but not fatty raw linseed oil, mixed fairly thin and without driers for new work, and such prime should be rubbed in well into the dry wood. Over such a priming paint is not likely to blister or peel, unless there are some local defects in the surface or behind it, such as plastering in damp weather, leaky gutters on roof, etc.

In repainting old-painted exterior surfaces, as an act of precaution the painter should, before he undertakes the job, assure himself of the actual condition of the old paint, which may appear to be solid and intact all over and yet, where the new paint has been applied over it for six months or a year, loosen its hold, taking the new paint with it and coming off in large blotches. A tap here and there on the old paint will tell whether it is adhesive and solid or whether it is loose.

The new paint cannot penetrate through the old paint and fasten it to the surface; on the contrary, in contracting on drying it is liable to draw it away still more from the wood, especially when the priming has been inferior.

We would advise you to remove all of the old paint, either by burning or scraping.

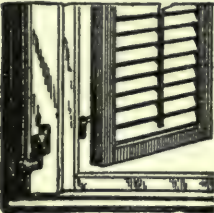
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To the Subscriber for 1910

WE are desirous of seeing every purchaser of our books also a subscriber to *Keith's Magazine* and therefore make the following very attractive combination offers. If you have already ordered a book and wish to come in under one of these offers, send the difference.

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With 182 Beautiful Interior Views	1.75
With any (2) dollar books I publish	2.75
With any (2) books I publish (including 100 designs, Bungalows and Cottages)	3.00

These offers have a greater value than ever on account of the enlargement of the magazine, increased to 80 pages for January 1910 number.

MAX L. KEITH, Publisher

399 Lumber Exchange

Minneapolis, Minnesota



Directions for Operating Round or Square Hot Water Boilers.

BEFORE starting the fire see that the expansion tank contains water. As long as it can be seen in the gauge glass it is sufficient, but it is best to keep the glass half full of water, refilling it as often as necessary.

See that the smoke pipe and chimney flue are clean, and that the draft is good.

Build the fire in the usual way; use a good quality of coal, stove size or smaller.

To control the fire use the slide damper in ashpit door and the damper in smoke pipe. Open the feed door slide to supply air for perfect combustion. The feed door should not be opened to regulate the temperature; this can be better accomplished by the use of the dampers, with more satisfactory results and greater economy of fuel. To "keep" fire, the draft dampers must be regulated to suit the draft of chimney; no rule can be laid down in this matter, as no two chimneys draw alike; consequently each apparatus must be regulated as experience teaches and the requirements call for.

With water base square sectional boilers only, a direct draft damper is provided; it should be opened when first starting the fire or when the fire is low and is required to be raised quickly, at all other times it should be kept closed to prevent wasting fuel.

The firepot should be kept full of coal (a little above bottom of feed door) and all ashes and clinkers should be shaken down and removed as often as the state of the fire requires it.

Shake down ashes and clinkers by a front to rear motion of the upright shaker on the square sectional boilers, or a right and left motion of the crank

shaker on the round boilers. On the square sectional boilers, which are supplied with two shakers, the right hand shaker operates the front half and the left hand shaker operates the rear half of the grate.

Hot ashes or cinders must not be allowed to remain in the ashpit, under the grate bars, but should be removed to prevent burning out the grate bars.

The clean-out doors on the front of the boiler, above the feed door, should be opened as often as necessary to clean off any deposit which might form on the sections. A cleaning brush is furnished with the boiler, and the surfaces should be cleaned off at least once a week when the boiler is in use, or oftener, depending upon the quality of fuel used. At all other times, the clean-out doors should be kept closed.

The water need not be drawn off from the apparatus during the summer months, and it is not necessary to renew the water in an apparatus oftener than once a year; the water should be drawn off and the apparatus refilled with fresh water just before starting the fire in the fall.

If the building is left unoccupied in cold weather, see that all the water is drawn out of the system. To do this it is necessary to open all the air valves, leaving them open until the system is refilled.

In filling the apparatus, open the air valves on the different radiators to allow the air in the pipes to escape. Leave the air valves open until the water runs out, then close them tightly.

Should any of the radiators not circulate, first see that the radiator valve is open, then open the air valve on the radiator affected until the water runs out, then close it tight. Always refill the expansion tank after drawing off water at the air valves.

"RICHMOND" Efficiency



THAT element which distinguishes the "RICHMOND" Heating System from all others is the efficiency with which all parts, from boiler to radiator, faultlessly perform the work for which they are intended. The specification of "RICHMOND" fixtures precludes any suggestion of an error in your judgment.

And, after installation, you will understand who the owners and users of "RICHMOND" goods join with us in proclaiming that "RICHMOND" means superiority.

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From the ash pit to radiator, the "RICHMOND" system embodies the newest and best that is known in heating. It is the crystallization of a hundred ingenuities—a hundred economies. It is adaptable to a three-room bungalow or a mammoth palace—to steam heat—hot water heat—direct or indirect.

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Western Distributors for "RICHMOND" Boilers and Radiators

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"RICHMOND" Bath Tubs---Lavatories---Sinks

If you are about to build, investigate, too, the "RICHMOND" line of enameled ware. Everything in enameled ware, from kitchen sinks to bath tubs, which bears the name "RICHMOND" is the best that can be made, less expensive in the beginning and in the end.

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"RICHMOND" Vacuum Cleaning Systems.

FIVE PLANTS: One at Norwich, Conn. Two at Uniontown, Pa. One at Racine, Wis. One at Chicago, Ill.

A little time devoted to understanding the working of the apparatus will amply repay for the trouble, and when once understood can be run with little trouble or attention.

How to Find Leaks.

Will you kindly tell me how to find the leaks in a vacuum system?

A leak of any considerable size will be easily located by its hissing noise. If the leak is very small it will be hard to find and I should employ the same test for the apparatus as is used in discovering leaks in a job piped for gas, where the leak is located by the sense of smell, due to the escaping ether.

Movable Radiators.

Hinged type radiators are employed in the heating system of the Royal Infirmary at Manchester, England. The radiators are arranged to be swung outward from the walls to facilitate cleaning, and also when necessary to reach the fresh air inlets located immediately behind the radiators. The system is a forced circulation of hot water with hot water generators supplied with steam for heating the water.

Friction in Water Pipes.

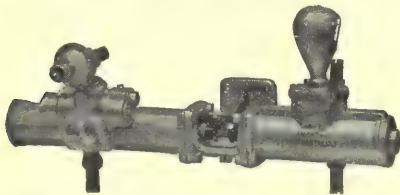
When water flows through any channel, or through pipes under pressure, it meets with resistances which retard its motion, and reduce its pressure. These resistances are called, technically, "friction." Particles of water move with great freedom among themselves, and if observed when in rapid motion, they will be seen striking the pipe, rebounding and striking other particles of water, which, in time, rub against and obstruct other

particles. The further away from the sides of the channel, which is the cause of this commotion, the less the disturbance, and the more rapid the flow of the water.

The greater the head, therefore, the faster the flow, the greater the commotion caused, and the greater the resistance created by friction. The larger the channel, or pipe, the less will this commotion penetrate the central part of the stream. It is to the fact that the channel is confined, and to the forward motion of the whole stream, that this movement of the particles of water among themselves, and the consequent resistance, is due, and so long as there is forward motion, this resistance must continue.

Areas of circles are, to each other, as the square of their diameters. It is usually considered that the doubling of the size of the pipe decreases the loss by friction at the same velocity of motion in the pipe, one-half. In other words, the loss by friction at equal velocities in different sized pipes, varies practically in the ratio of pipe surface or circumference, to cross section. Practically, when delivering the same number of gallons per minute the friction loss in two pipes of equal length, the diameter of one of which is twice that of the other, will be in the larger pipe one-thirtieth of that in the smaller, or the loss in the smaller will be thirty times as great as that in the larger.

This relation of volume, or number of gallons to be delivered per minute, should never be disregarded by the plumber who is ambitious to do effective work. Friction developed in different sized pipes should never be overlooked when calculating water supplies. In laying the pipes all bends and elbows should be avoided, where that is possible. The pipes should be as large as possible to use for the purpose, and the trend of their direction should be changed gradually. Sudden changes in direction destroy the velocity of the flow very rapidly, and, as a result, reduce the volume of the discharge. A reduction, or an increase, in the size of the pipe, caused by the screwing on of branch pipes, smaller or larger, also reduces the velocity, and makes the work of the plumber less effective.



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PUMPING RAIN WATER

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is the slogan and YOU, present subscriber, will appreciate that if "KEITH'S" is to be better than it has been the past year, it will be mighty good and you certainly will renew your order for 1911.

Please notice this November issue as to general appearance and improvement in printing and how well the engraving cuts show up. This will be the standard. An artistic, practical magazine for Home-Builders.

Send in your subscription TODAY at the old price, \$1.50 per year.

SPLINTERS AND SHAVINGS

Lath for Stucco Finish.

G. W. D.—We are considering the matter of building a bungalow and are undecided as to what kind of construction to use.

The question of metal lath, the kind of metal, the form of openings, and prevention of rust. We are informed that in this climate the metal lath will rust out in about five years on account of the dampness. Of course we can coat the lath and we can coat the outside coating of cement plaster to prevent the dampness from penetrating the cement, but if we are compelled to be putting on water and rust proofing coatings it seems that it is just as well to use the ordinary sheathing boards with building paper and clapboards.

Another matter is how should the wire lath be put on, directly on studs, or on sheathing boards, or on furring lath. On account of the great diversity of opinion and the lack of knowledge as to the life of the various kinds of metal lath I am of the opinion that it would not be wise for us to adopt that form of construction inasmuch as it would seem absolutely necessary to coat every material and thus make the work too expensive.

We have had another form of construction which has appealed to us but have not been able to learn of any houses on which it has been used; this is wall board. We know of one hotel in New Jersey where we recently lived which had wall board coated with cement mortar and in a short time cracks appeared where the wall boards were jointed. It may be that they were not put on properly, that is with a lime putty joint as some authors recommend or that the freezing and thawing affected the cement.

You can see how difficult it is to decide even after reading a number of articles on the subject; all of the articles were lame in some respects, not complete. Some writers suggest the use of hydrated lime in combination with ce-

ment and others say that it injures the durability of the plaster to add lime as it helps to rust the lath. Others recommend dipping the lath in a bath of Portland Cement and water before nailing up. Another party states that the cause of lath rusting out in a large office building in this city within three years was due to the fact that cinders were used for a base with cement and the sulphuric acid in the cinders acted upon the metal lath.

You can see by the above that I wish to adopt some form of construction for our bungalow which will be artistic, within a reasonable cost and at the same time provide durability and protection in case of fire.

I have no doubt as to the interior coating as I am acquainted with the wall board in that form.

Enlighten me on the above doubtful points and at same time give relative or comparative figures as to cost.

G. W. D. Ans.—In reply will say, the best metal lath to use is that which is galvanized. The exact make of the lath is not important as the cement will have a sufficiently good clinch on almost anything that is provided of a metallic character. The question of one lath taking a little more material than another, is supposed to be important in large structures, but ordinarily would not be considered. Galvanized wire netting of close mesh has been used to advantage; in fact, is highly recommended. As for the various coatings, they are supposed to be water proof and rust proof and in most cases come already applied to the lath. No doubt you have read Mr. Moyer's article in the October issue, in which he advocates dipping the lath in cement and water previous to its application. He is an authority on the subject and no doubt has given a great deal of attention to the question. We would feel that his opinion on these matters was of value. Of course the idea in using the cement coating rather than clapboards, is a matter

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On receipt of \$5.00 and a rough diagram or description of your own ideas we will make a special study of your requirements and prepare the first and second floor plans accurately laid out to a scale with a picture of the exterior of the house as it would appear when completed, advising you of the additional charge for Complete Working Drawings, Specifications, Etc., which will be as low as is consistent with the labor involved. This offer applies to residences only costing not over \$5,000 and is made simply to demonstrate to you the value of competent services in interpreting and rendering practical your *original ideas* so that the home will be a complete success in every detail.

"There is no art to find the mind's construction in the face." — Macbeth.

- BUT -

"The dwelling a man builds, reveals his personality, and through its halls and porches runs the story of his life."

Now if the problem be given proper consideration, it means *time* and *time* is money. We would be speedily overwhelmed with requests if this were a *free* offer, consequently it is not free. No signed contract is asked for. We propose to make our work so pleasing and satisfactory as to demonstrate beyond a question that the *best* is certainly the *cheapest* for you. The fact that *houses* built from our designs *sell* advantageously when built proves they are *practical* and *desirable*. This is an important matter should you wish to dispose of your property.

REMEMBER:—It is not what *you pay for plans* that is the *real consideration*, but it is *what you get*. Why? Because upon your *plans* and especially the *details of construction* depends utterly the *proper* or *improper* expenditure of all your *building funds*. Quite important, is it not?

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A Clock Tells Time

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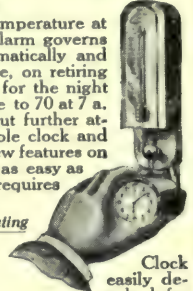
Applied to hot water, hot air, steam and natural gas heating. Lasts a lifetime and worth its price each year. The standard for 27 years.

DETACHABLE CLOCK—8 DAY ALARM

The Time Attachment

enables one to secure a change of temperature at any pre-determined hour. The alarm governs this change and performs it automatically and silently at the time set. For instance, on retiring you set the indicator at 60 degrees for the night hours with the alarm set for a change to 70 at 7 a. m. This change takes place without further attention on your part. The detachable clock and an eight-day alarm set, which are new features on the 1911 model, make the winding as easy as winding a watch and the alarm requires winding but once a week.

Sold by the wholesale and retail heating trade everywhere under a positive guarantee of satisfaction.



Clock easily detached for winding and setting.

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Special Catalog of Mantels, Andirons and Fire-place Fittings, sent upon request.

E. A. JACKSON & BRO., 25 Beekman St., New York

SPLINTERS AND SHAVINGS—Continued

of taste and artistic requirements. In a warm country where the building would not be subjected to wind storms of any great severity, the lath might be applied directly to the studs without sheathing the frame at all, but it should be well braced. On account of the stiffness which the sheathing imparts to the frame we would not recommend this. When the lath is applied over the sheathing, furring strips about $\frac{5}{8} \times \frac{7}{8}$ should be spaced 8" on centers and nailed to the sheathing over building paper. The lath is then applied to this, giving an air space and opportunity for the cement to clinch.

In regard to the wall board we feel that the difficulty with the method you speak of, is due to the fact that the sheets of plaster board were laid too close together. There should be a space between each board to allow a proper plaster clinch and any possibility of swelling when the board becomes damp. We don't recommend the use of lime in cement stucco in cold climates. Locally, we use Portland cement. However, a great deal of patent plaster has been used hereabout upon plaster board, the manufacturer giving a positive guarantee as to both materials. We prefer finely screened gravel rather than cinders for dashed stucco work. The size of the screen will be determined largely by the effect desired.

The itemized cost of stucco on plaster board is as follows:

For 100 yds. of plaster board at 15 cents per yd.....	\$15.00
14 bbls. of patent plaster at \$1.25 a bbl.....	17.50
Nails and nailing.....	4.00
Maximum cost of labor.....	35.00

Total\$71.50

It is stated by the plaster manufacturers that cement stucco will not ad-

here to their plaster board. This is the price locally and there are no freight charges to pay, while at your city, there being no factory, the price would no doubt be higher on account of having to ship the material in. Stucco on expanded metal is done locally for from \$1.00 to \$1.25 per yd. Coated metal lath costs 17 cents per yard while galvanized lath would cost 25 cents.

Prices of Material and Labor.

The following is a list of current prices at Tulso, Okla.:

Rough Lumber,		
S. & E.	\$21.00.	to 25.00
Cement	1.70	per barrel
Lime .....	.87	per barrel
Unfibred Plaster .....	.50	per sack
Sand .....	.60	to 1.00 per yd.
Crushed Rock for concrete purposes	1.50	per yd.
Plastering —		
Contract, all material furnished .....	.28	per yd.
Common Labor .....	.17½	to .25 per hr.
Carpenters ....	.30	to .45 per hr.
Bricklayers ....	.75	per hr.
Team Labor .	.44-49	per hr.

Hicks' Builders Guide.

A revised edition of this well known work I. P. Hicks will be appreciated by those already familiar with earlier editions. The book presents an easy, practical system of estimating building material and labor, and is a comprehensive guide to those engaged in the various branches of the building trades. The methods given are clearly stated in language readily comprehended by all and the illustrations are very plainly drawn. The book contains much of interest to the housebuilder who desires to build by the "day." It is already known to architects, builders and contractors. Bound in cloth it contains 166 pages. Price \$1.00. David Williams Company, Publishers, N. York.



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Better Homes Cost Less you find, when you examine Sedgwick plans. The years you are to spend in your home, the enjoyment you are to get out of it, the money you put into it, all make it plain that you should make yourself as expert as possible choosing your home. "BEST HOUSE PLANS" is my book of 200 modern homes—full of ideas, showing new architectural work. Designs which are unique for homes costing \$500 to \$6,000. Send NOW for this beautiful book, Price \$1.00. New, large and improved 8th edition just off the press. To those interested, a New Book of Churches FREE. CHAS. S. SEDGWICK, 1028 K, Lumber Exchange, Minneapolis



THE RAILROADS AND THE PUBLIC

Important Announcement



DARIUS MILLER
President, Chicago, Burlington
& Quincy Railroad



FREDERIC A. DELANO
President, The Wabash Railroad



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BENJAMIN L. WINCHELL
President St. Louis & San Francisco
System and Chicago &
Eastern Illinois Railroad



WILLIAM A. GARDNER
President, Chicago & North
Western Railway

THE railroads and the Interstate Commerce Commission are making history. The hearing on rates, now in progress, will doubtless continue for months. The findings of the Commission will constitute a piece of legislation—we use the word advisedly—sure to mark an epoch in American commercial history.

But the public has other interests in the railroads than lowering or raising of rates. It wants to know about their finances, their earnings, their attitude toward governmental regulation, the treatment of their employees, etc. In fact the railroads are as important an issue for the nation as the tariff and at least seem a great deal nearer home.

Because it believes that this universal interest is sincere and vital and that it demands the most authoritative information, THE WORLD TO-DAY has arranged for a series of articles in which the most important matters at issue will be discussed by the heads of several of the great railway systems. The mileage represented by the railroads over which these gentlemen preside constitutes a large percentage of that of the entire country. The immensity of the interests represented and their importance to the public will make this one of the most notable series of articles ever published by any magazine.

Among the contributors to this series are: Mr. Darius Miller, President, Chicago, Burlington & Quincy Railroad; Mr. Frederic A. Delano, President, The Wabash Railroad; Mr. Benjamin L. Winchell, President, The St. Louis & San Francisco System and The Chicago & Eastern Illinois Railroad; Mr. William A. Gardner, President, The Chicago & North Western Railway, etc.

Their views will be frankly set forth on such live subjects as—

Are the Railroads Overcapitalized?

Are the Railroads Opposed to Governmental Regulation?

Are the Railroads Fair to Their Employees?

The Relation of the Railroads to the Public

The Relation of the Railroads to Other Industries

The Need of Increased Railway and Terminal Facilities

The first article of this series, written by Mr. Darius Miller, President of the Chicago, Burlington & Quincy Railroad, will be published in the December issue of THE WORLD TO-DAY. This is but one of the big new features for 1911. Don't miss it.

THE WORLD TO-DAY is a live magazine for progressive people. It is *printed in colors* and the best value in the market. At all dealers, or send \$1.50 for an entire year.

THE WORLD TO-DAY
67 Wabash Ave. - Chicago

GLIMPSES OF BOOKS

The Steering Wheel.

By Robert Alexander Wason.



HE story of a wealthy young American whose uncle sent him abroad to finish his education. While in Europe he becomes interested in social problems and returns with three friends, a French Count who has renounced his title, a German with a capacity for statistics and a Russian with a desire to lay down his life. Their expenses are paid by the American and they arrive at the house of his uncle, a manufacturer of structural steel, a philanthropist yet hardly in sympathy with their cause. A war is on between the two largest steel plants in the country and either would be glad to come to an understanding were it not for personal differences of their respective heads.

As the president of one company the uncle is very bitter and has hoped that his nephew would come into the work and help him with the fight. He is disappointed with the socialistic views of the young man who dreams of starting a big crusade for advancement of the cause.

About this time he falls in love with the girl next door, who is the only daughter of the rival manufacturer. He finds the situation requires his undivided attention and the "cause" meanwhile is not advanced.

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